

**History of the
The Modoc National Forest
United States Forest Service - California Region**

Compiled By

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Of The
Modoc National Forest**

California Region United States Forest Service

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Chapter I - General Description

Location And Relation To Surrounding Areas

Having the California-Oregon state line as its north boundary for some 60 miles, the Modoc National Forest is the most northeasterly of the national forest units of the California Region, the eastern boundary of the Forest also paralleling the Nevada state line a few miles distant there from for approximately 65 miles. Embracing within its boundaries a gross area of about two million acres, it is the second largest national forest in area in the State of California, and one of the largest in the United States.

Somewhat divorced by location from the national forest units of the Southern Cascades and those of the main Sierra Nevada Range, it lies about the headwaters of Pit River, largest feeder of the Sacramento. There are two distinct divisions of the Modoc Forest, 15 percent of it being included in the Warner Mountain Range, a rugged offshoot of the main Sierra Nevada, and the balance of its area covering the more level timbered and woodland areas of Modoc county, with a considerable acreage extending over into the neighboring counties of Siskiyou, Lassen and Shasta. The gross area of the Modoc National Forest lying in Modoc County is 1,619,253 acres; in Siskiyou County, 98,824 acres; in Lassen County, 193,909 acres, and in Shasta County, 8,967 acres.

Separated from the more heavily-populated and intensively-used areas of the Sacramento Valley by a series of mountain ranges, the Modoc territory is - and always has been - very much of a self-contained and independent area, devoted mainly to livestock production and in later years to lumbering also. The entire mountain area is interspersed with and paralleled by valleys of unusual fertility, dependent for their best use on the adjacent national forest lands. The climate in the valley areas is somewhat comparable to that of Western Illinois, involving four distinct seasons and a general average precipitation of 13 inches, a large part of which comes in the form of snow during the winter months of December to March, inclusive.

Surprise Valley hugs the east slopes of the Warner Mts. for some 65 miles north and south, ranging in width east and west from two to six miles, its eastern boundary reaching into the sagebrush expanses of the lower-lying mountains of Western Nevada. Four thriving little towns, Fort Bidwell, Lake City, Cedarville and Eagleville represents the urban centers of Surprise Valley, one of the most unusual land-locked valleys of the State. The center of Pit River Valley is

Alturas, county seat of Modoc County and the Metropolis of northeastern California. The north and south forks of Pit River form a junction at this point, the South Fork Valley extending from Likely twenty miles north to Alturas. The Pit River Valley lies along the course of the main stream for some 25 miles from Alturas to the timbered hills west of the lumbering town of Canby.

Goose Lake Valley lies between the meander line of Goose Lake and the western base of the Warner Mts. and except for the break of the Sugar Hill Divide, extends from the headwaters of the north fork of Pit River well over into the State of Oregon. In addition to excelling in livestock production and dairying, the section centering around the village of Davis Creek is famous for deciduous fruit production, mainly apples. Species of this fruit from the John Briles orchards there usually win first premium wherever exhibited. The sawmill town of Willow Ranch lies in the center of the valley while the town of New Pine Creek straddles the State line. That part of Goose Lake Valley in California is about 25 miles in length and from two to five miles wide.

On the south side of the Adin Mountain barrier lies Round Valley, entirely circled by the timbered hills of the national forest. Through a gap formed by the waters of Rush Creek, it is, literally speaking, but a few steps into the wide reaches of Big Valley, an immense area of good, bad and indifferent farm land and sagebrush flats lying approximately half in Modoc County and half in Lassen County. This large flat area is also encircled by the national forest and the timbered hills of the Big Valley Mts. which form the divide separating Big Valley from Fall River Valley, further west. Big Valley boasts four small urban centers, Adin and Lookout in Modoc County, and Bieber and Nubieber in Lassen County.

The northwest corner of the Modoc National Forest breaks into Tule Lake Valley, which comprises for the most part the reclaimed bed of Tule Lake, included within the Federal Klamath Irrigation Project. This area has come into national significance because of its soil fertility and its tremendous production of livestock, grain, potatoes and other crops common to a temperate climate. Here California mixes with Oregon around the thriving urban centers of Tule Lake, California, and Malin and Merrill, Oregon. The city of Klamath Falls, a little further to the west, ties closely into the economic life of Modoc County.

Jess Valley, located entirely within the South Warners district of the national forest, contains some 7,000 acres of unusually fertile farmland and is one of the best-watered mountain valleys of the State. Equally isolated is Little Hot Spring Valley, somewhat similar to Jess Valley but more extensive in area, lying in the extreme southwest corner of Modoc County. Protected by surrounding mountains and its atmosphere tempered by hot springs, this little valley is distinguished for its mild, equitable climate. Stone Coal Valley, with its series of stock ranches, is located entirely inside the western division of the Forest. Many other small fertile valleys are located here and there throughout the Modoc Forest area.

So closely connected are the valleys and wild lands that it is hard to tell where one ends and the other begins. Farms extend into the canyons of the national forest and in the large plateau areas stock ranches of surprising fertility are situated entirely within its boundaries. Many farmers grazing livestock on the national forest ranges turn the animals on the mountain pasturage by the mere expedient of opening a gate in their fences.

Very few crops can be grown without liberal irrigation. Streams from the national forest furnish the local irrigation water, and in many areas the domestic supply as

well. One of the commonest uses of national forest land on the local unit is water storage reservoirs and irrigation works. In addition to Government lands included within the Modoc National Forest, there is an area of over 400,000 acres of other public land in Modoc County alone, mainly rangelands administered by the Grazing Service of the Department of the Interior. Since the entire area of Modoc County is 2,620,160 acres and public land within the local national forest totals 1,327,515 acres, approximately half of the entire county area is publicly-owned national forest, and about 16 percent other public land.

The coming of the automobile somewhat broke the isolation of Modoc County, as highway construction was pushed through during the latter twenties and the thirties. Highway 299, one of the scenic, year-around mountain roads of the State, extends from Redding east through Shasta County, then almost one hundred miles northeasterly and north through Modoc County to Oregon connections. This route is commonly known as the Yellowstone Cutoff. Highway 395 enters the county from the south and joins 399 at Alturas to become a part of the latter through highway to Oregon points. Highway 395 is commonly called the Three Flags Highway since it traverses Mexico and Canada also. Crossing the Mojave Desert from the south it follows the east side of the Sierra Nevada to Reno, thence north through the mountain and plateau country.

A fine highway built by the Federal Government leaves Highway 399 at Canby and extends northwest to Tule Lake and the Klamath Falls section. Although traversing a mountain plateau region, there is one stretch of this hard-surfaced highway, which runs in a dead straight line through the pine timber for over 11 miles. A main route taking off from this Alturas-Klamath Falls Highway cuts south through the western part of the local national forest and continues on through Big Valley to central Lassen County.

Modoc County has a total population, all classed as "rural", of slightly more than nine thousand people and an assessed valuation of \$12,364,000. Considering the relationship of area and taxable property to population, road construction and maintenance is, therefore, a major problem. However, even county roads connecting main highways are surprisingly good, since for a mountain region the terrain is quite level. Many of the county roads are macadamized. The twenty-five percent of national forest receipts which by law come back to the county treasury for the benefit of roads and schools, is practically all used for road maintenance.

As part of the sparsely populated great inland empire lying in the States of California, Nevada and Oregon, the Modoc territory in comparatively recent years has blossomed from one of the most "railroad less" areas of the west to a region more than adequately served by rail transportation. When California transportation pioneers were planning transcontinental routes to the East, the comparatively snow-free and the rather gentle terrain of the Modoc country was given some consideration as a main through route but the idea was discarded, partly because of lack of knowledge of the country, and partly on account of the turbulent nature of the Indian tribes of the region.

In 1880, New York capitalists, casting longing eyes on the undeveloped Modoc territory and adjacent areas of the same type in Southeastern Oregon, interested Moran Brothers, pioneer railroad contractors, in a railroad project. Chas. Moran and his associates in 1882 started building the Nevada, California and Oregon

Railway from Reno northward towards Lakeview, Oregon, 250 miles distant, through a country as desolate-appearing as any in the West.

Mile by mile, Moran Bros. slowly pushed their narrow gauge railroad north through the waterless sagebrush hills and plains to Madeline in Northern Lassen County, which for years was the end of steel. It was not until 1906 that the railroad reached Alturas, and six years later its original objective, Lakeview, Oregon.

For decades, the winding, narrow gauge N. C. & O. Railway, with its dinky engines and coaches, served the big country lying north of the main transcontinental lines. The butt of many jokes, it was, nevertheless, the only year-around transportation link with the outside world. Deep snows of winter, spring washouts, and summer cloudbursts made the schedule of the combination freight and passenger trains somewhat uncertain and it was not unusual for passengers to "camp out" somewhere along the line. At times the city of Alturas was without mail for as long as three weeks and citizens of that town- sometimes turned out en masse to dig their train out of the snow on Madeline Mountain, some thirty miles to the south. In the fall of 1919, Forest Supervisor W. G. Durbin wrote his District Office in the matter of an overdue report: "The N.C.O. train has been in the ditch most of the time for the past week. In case the report does not reach you within the next few days, let me know."

During the latter years of its existence, the N. C. & O. passenger coaches were a combination also of sleeper and diner. The most important officer on the train, perhaps, was the colored gentleman in charge of this temporary home on wheels. Not only was he a first class chef, but served in the capacity of waiter and porter as well. He also functioned as flagman to fill a position required by interstate law, although usually the only traffic encountered was the animal wild life of the region, or wandering range cattle. This employee was a quick-change artist, switching his headgear and outer habiliments to suit the function he was at the moment fulfilling. After a few experiences with hungry, stranded passengers breaking into freight cars to secure food, the company kept the train larder well stocked and for years the N. C. & O. had the reputation of serving the best meals of any railroad line in the nation.

The N. C. & O. line, often jokingly referred to as "The Northern California Outrage," was a decidedly human institution. Often trains were run in bad weather to transport sick or injured out of the backcountry for expert medical or hospital attention. To meet some local emergency, time and again special trains were run through to the main line. Passengers called trainmen by their first names, and it was no uncommon occurrence in case of delay or breakdown for the engineer to hike back to the passenger coach and assure sick or nervous passengers that he would get the train through to the main line on schedule.

During World War I the south 100-mile section of the N. C. & O. Railway was purchased by the Western Pacific and broad gauged by them to their main line at Hackstaff. In 1925, the Southern Pacific acquired the controlling interest in the balance of the line and immediately commenced reconstruction and broad gauging operations. In November 1927, thousands of outside visitors joined the Modoc people in celebrating the official completion of the new Southern Pacific line into Alturas over the old N. C. & O. right of way, and of the arrival of the first standard gauge train from the main line at Reno.

The Southern Pacific had entered the Modoc country in earnest and while pushing its line on from Alturas to Lakeview, Oregon, also built diagonally northwest through Modoc County, Tule Lake and Klamath Valleys to a connection with their Cascade Line at Klamath Falls, Oregon. On September 14, 1930, in a gala ceremony at Hackamore, amid the pines of the Modoc Forest, and engine crashing through a paper-mache mountain marked the completion of this line, known locally as the Natron Cut-off.

The Southern Pacific did not have things all their own way in the local railroad development field. The Western Pacific had also been casting longing eyes on the great inland region to the north and almost simultaneously with the Southern Pacific construction pushed a main line from Plumas County north through Big Valley in Lassen County, on through western Modoc County to a connection with Klamath Falls. This shortened their route from Puget Sound to Sacramento by some 120 miles. In the Tule Lake section this new Great Northern line and the Southern Pacific tracks for miles ran almost side-by-side.

By the early thirties, the Modoc Forest had the Southern Pacific paralleling its eastern section for some 75 miles and a total main line trackage in its western division of approximately 150 miles of combined Southern Pacific and Great Northern lines. After the first few years, passenger service on both systems was discontinued, but the lines carried a heavy tonnage of freight, gradually increasing in volume during the recent war years.

Place Names

Place names are a great indicator of the early history of any American locality and the Modoc territory is no exception. The base map of the Modoc National Forest bristles with names reaching back into Indian use, Indian warfare, and pioneer days. Only a comparatively few can be given.

The best explanation of the derivation of the word "**Modoc**" itself is that it is a corruption of two words from the Klamath Indian tongue, "Moa" meaning "southerner" and "Dock" representing near, the term being applied by the Klamath Indians to their hereditary foes living to the south. The warlike "Moadocks," indeed, were uncomfortably close to the more peace-loving Klamaths. Some authorities, however, credit General John Charles Fremont as coining the name in 1846 from having about that time read a novel, the central character of which was named "Maidac". The first definition is the one most generally accepted.

General Fremont was a prolific coiner of place names. Sometimes they did not stick and few did in the Modoc country. The present **Tule Lake**, appropriately named because of its former rank tule growth, Fremont called Rhett Lake, in honor of his congressman friend of that name. He also christened the present **Timber Mt.** in the western part of the Forest Excelsior Butte, when he camped at its base in the spring of 1846.

Bloody Point, a promontory on the eastern shore of the now dry Tule Lake, was appropriately named by Oregon pioneers. Here in September 1852 an emigrant train of some 65 persons were massacred by the Modoc Indians. One man only, badly wounded, made his escape to the Oregon settlements in Willamette Valley. Oregon volunteers, reaching the scene later, found bodies of men, women and children scattered for more than a mile along the lakeshore. Almost every body had been terribly mutilated and the wagons plundered and burned. The following

year in the same spot a repetition of this massacre was averted by Oregon volunteers who arrived barely in time to succor another beleaguered train about to be overwhelmed by the savages.

Fandango Valley, in the North Warners section, also owes its name to a bloody Indian massacre of the middle fifties. A large emigrant party had made its way over the steep slopes of the Warner Range and camped for the night at a spring in the valley. Viewing the waters of Goose Lake through the trees the emigrants possibly believed they had reached their journey's end and decided to have a dance to celebrate their achievement. Perhaps the sentries had relaxed their vigilance - possibly there were none posted; anyway, while the festivities were at their height and the party was indulging in a Spanish fandango dance, Paiute Indians, who had sneakingly followed the train over from the Nevada country, attacked the camp. There were no survivors and the story of the massacre was later wrung piecemeal from Indian participants. As late as the early 1930, Forest Service workers picked up white human skulls and personal trinkets on the scene of the tragedy. Almost on the same spot two years later, two out of a band of three men bringing a band of horses from Missouri to California were killed in a pitched battle with the same tribe of Indians. Tables were turned on the Indians when in 1866 soldiers from Fort Bidwell and volunteer settlers cornered a large band of them in the upper end of the valley and killed a considerable number. Two soldiers were also killed in the fight and several soldiers and settlers wounded. Among the latter, incidentally, was Chris Rachford, father of C. E. Rachford, for years Assistant Chief Forester of the United States.

Captain Jack, leader in the Modoc Indian War of 1872-73, gave his name to several topographic features in the western part of the Modoc Forest. The most prominent butte in the Lava Beds section is called **Schonchin**, after the old Indian war chief of that name. In 1864 this Indian leader signed a treaty of peace with the whites. Looking around for something to give emphasis to his pledge, he pointed to the distant butte and dramatically declared, "That mountain shall fall before Schonchin will again raise his hand against his white brother." The old chief kept his word, although his brother was hanged for participation in the later Modoc war and a nephew fought in the ranks of Captain Jack's warriors - both of whom bore the name Schonchin.

Surprise Valley comes by its name honestly. Westward-bound emigrants, surviving the terrors of the Black Rock Desert and traversing the arid sagebrush expanses of western Nevada, encountered a real "surprise" when their wagons rolled through Forty-Nine Pass down into the well-watered reaches of this fertile valley. The western backdrop for this beautiful valley, the **Warner Mts.**, was named by military authorities in honor of Brevet Captain Wm. H. Warner, who was killed by Indians September 26, 1859 when he was ambushed with his nine-man surveying party. Warner was a West Point graduate, and a favorite of General Wm. T. Sherman.

Soldier Creek in Surprise Valley derives its name from the fact that soldiers sent to cope with the Indians started to build a fort there in 1864. They abandoned the project, came back in greater strength next year and built Fort Bidwell. The Fort Bidwell soldiers also gave Sugar Hill its name. A wagon hauling the garrison's sugar ration broke down on the long grade in that vicinity and scattered the precious sugar all over the hillside.

Saddleback Mountain could hardly bear another name because of its shape as viewed from the west side. It bore this name "Saddleback" before the days of the white man, the Indians with their love of colorful tales recounting the story of two Indian chiefs racing their ponies from Mt. Shasta to the Warner summit. The winner, says the Indian legend, hung his saddle on the mountaintop to announce himself to the world as the winner. The same mountain has another name, however, since it is designated as Sagle Peak on official maps. Looked at from the east side it is a sharp peak and on clear days eagles are invariably seen circling the summit.

The Spanish name of **Alturas** which literally means "a valley on top of a mountain" was given to the town in 1874 when Modoc County was created by being carved out of Siskiyou County. Prior to that time it went by the more prosaic name of Dorris Bridge, since the Dorris family in 1870 built the first bridge over Pit River at that point, at the same time establishing a trading center and settlement as well as the large, present-day Dorris cattle ranch.

Gold Digger Pass, the only break for miles in a high lava rim in the Western part of the Modoc Forest owes its name, not to the gold diggers from Oregon passing that way during gold rush days but to a beautiful golden brown wild stallion, hunted for years by the vaqueros of the eighties. The much sought for animal, termed Gold Digger by the vaqueros, always eluded his pursuers by escaping through this gap in the towering rim rock.

The name of the little town of **Likely** was strangely chosen. When a post office was established there shortly after the original settlement of South Fork Valley, the name of South Fork was disapproved by Washington authorities as were several other names submitted to the post office officials. The settlers gathered in the local store one night to choose a suitable name. Just as the meeting was breaking up without a decision having been reached, one of the pioneer stockmen, Wm. H. Nelson, who had hitherto remained silent, remarked, "Wa'al, it looks as if we're likely to get a name and likely not to." The word "likely" had an appealing sound and was unanimously adopted.

The bones of Tuledad Matney, an old Indian scout who ended his days in the Modoc section many years ago, rest in an unmarked grave on Mill Creek in Jess Valley. His unusual given name is preserved in **Tuledad Canyon** located near the south boundary of the Forest. The town of **Canby** was named for General E. R. S. Canby who was shot to death by the Indian leader, Captain Jack, at a peace conference in the Modoc Lava Beds on April 11, 1873. The late Major Chase B. Hardin served with distinction as a private soldier through the Modoc Indian campaign of 1872-73, and a butte in the Lava Beds National Monument bears his name.

Pit River was named for the Pit tribe of Indians who dug pits along its banks to trap deer and other game animals. Lost River in the northwest part of Modoc County was so called by the Indians. Between Tule Lake and Clear Lake this ran underground for miles, reappearing as the main feeder of the Tule Lake. Indians believed that Tule Lake leaked through a lava crevice in the south end and that the waters sent into the lake by **Lost River** flowed underground, to come to the surface again as Fall River, some 60 miles distant, air line. Tule Lake had no visible outlet, and so logical seemed the Indian tradition that Government engineers sunk a deep shaft in search of the fabled underground stream. It was never found.

A German named Goos, who was the first brewer in Modoc County, was also the first settler on a small creek flowing from the east side of the Warners. On the maps compiled by early-day forest officers, the creek was properly named "Goos". Washington draftsmen, knowing that the old time rangers were usually poor spellers, inserted the "e" and the name "Goose" stuck. The casual visitor who never heard of old man Goos often wonders what connection **Goose Creek** ever had with the bird of that name.

Thos. Bare settled with his family on a creek near the south end of the Warners in 1865. While out riding after strayed livestock with a group of neighbors one day a band of Paiute Indians attacked his log cabin home. The young wife barricaded the place and gave the Indians a good fight. She was down to the last of her ammunition and about to use it to kill her two small children and herself rather than fall alive into the hands of the Paiutes when her husband and his party returned and drove the Indians off. Mrs. Bare lived in Modoc County until her death at 93 years of age, her declining years cheered by the fact that official topographers had finally corrected "Bear" Creek on the maps to its proper name of "**Bare**" Creek, since for years the erroneous name had persisted.

Another unusual corrupted name is **Hackamore**, applied to an important Southern Pacific station located on a timbered flat in the western part of the Forest. An early-day vaquero lost his jaquima, or rope bridle, in that vicinity and his companions named the flat "Jaquima". The Forest preserved the name on its maps as originally spelled for many years but Southern Pacific engineers thought the name should be written just as it was pronounced in the local vernacular, so "Hackamore" it became.

Writers of Western history, interested in this study, find a fertile field in Modoc County for the unusual in place names, replete as they are with echoes of Indian occupation and pioneer conquest.

Chapter II - Early History

Indian Use and Occupancy

It is probably no exaggeration to say that the Modoc country supported an aboriginal population equal to or perhaps exceeding the total permanent population of the present time. Records left by the earliest white explorers and extensive remains of Indian occupancy substantiate this statement. In the summer of 1924 a party of forest officers traversed the south and southeast shoreline of Tule Lake, from parts of which the waters had just recently receded due to reclamation development. In places the bed of the lake was literally covered with human bones for several hundred yards out from the old shoreline - remains of former Indian occupants of the region. In a very short time these bones disintegrated from exposure to the air but gave mute evidence of the swarming population which must have existed in that section. There is hardly a township of land anywhere within or adjacent to the Modoc Forest which has not given evidence of Indian use and occupancy.

The country to the east and Surprise Valley generally was occupied by the fierce Paiutes pushing down from the Idaho mountain country. This numerous tribe of the Shoshone Indian nation was distinctly divorced from the Digger Indians, also ranging through Western Nevada and pushing over into Eastern Modoc, since while the Diggers were little better than animals in their mode of miserable existence, the Paiutes had reached a fairly high level of Indian culture, were fierce, aggressive and warlike. Except for occasional forays, the Warner Mountain Range, generally speaking, represented the western boundary of the Paiute hunting grounds.

The Modocs were part California and part Oregon Indians - to use present day geographical distinctions. They occupied northwestern Modoc County around Clear and Tule Lakes, the Lost River section and extended along Sprague River in Oregon. Originally they were an offshoot of the Klamaths whose hunting grounds were located further to the west. They ranged south and southeast well into what is now Modoc County. Although sprung from the Klamath tribe, a fairly peaceful people as Indians went, the Klamaths and Modocs were bitter enemies, such enmity probably having something to do with the Modocs' separation from their parent tribe, many years before the coming of the first white men.

The Pit tribe of Indians -sometimes called Pit Rivers - was one of the most populous of California. Joaquin Miller, who lived among them for several years in the 1850's mentions their large population. They ranged from the headwaters of both forks of Pit River all along the reaches of the stream into Fall River Valley. Sandwiched between the fierce Paiutes on the east and the even fiercer and more warlike Modocs on the northwest, the Pits lived in deadly terror of their neighboring foes, the Modocs in particular. The latter tribe had a regular habit of making raids on the rather peaceful Pits, killing their warriors and carrying off their women into captivity.

The numerous artifacts found in that section point to a heavy Indian population in Goose Lake Valley. There were none there when the white men came and the puzzle of their absence was solved partly by Indian legend and partly by later visual observation. The Indians, evidently a branch of the Pits, had migrated from

Goose Lake Valley during one of its periodic dry-ups, probably early in the eighteenth century. During the periods when this lake was full of water it was a great fish and game country. The same can be said of the entire Modoc section, the general Indian term for the entire country so well stocked with fish and wild life meaning, as nearly as possible in its English translation, "The Smiles of God."

While more an Idaho and Nevada tribe rather than Californian, the Paiutes considered the present Surprise Valley area as their hunting grounds and bitterly contested for decades the white man's invasion of their territory, just as they had formerly waged war against encroaching tribes in pre-American days. In habits and culture they were the typical inland Indians of the far West.

Sandwiched between the Paiutes and Modocs, life was not pleasant for the Pits even though they occupied an immense stretch of country, well watered and abounding in fish and game. In their aboriginal state the Pits appear to have been a peaceful people, taking the raids of the Paiutes and Modocs as one of the regular risks of their existence. While they were sometimes guilty of massacres of small emigrant parties and on occasion individual Pit Indians joined renegade bands in battling American soldiers, they offered no organized resistance to white aggression but rather apparently welcomed the protection afforded them against their more warlike neighbors. They were proficient basket makers and although skillful hunters sometimes perished by the hundreds during hard winters because of their improvidence.

The Modoc tribe of Indians are somewhat of an enigma. Certainly they etched their name deeply into American history and in their dying struggles as a tribe precipitated the only Indian war of consequence ever fought on California soil. Numerically they were not a large tribe. When they usurped the territory in which the first white men found them and became an independent people, they probably absorbed remnants of other tribes. The Klamaths, from whom they separated themselves, always remained their constant enemies.

There are scant records of a tribe called the Rock Indians who inhabited the lava caves south of Tule Lake, and many evidences exist of a more populous tribe formerly occupying the Modoc's hunting grounds. During the Modoc Indian War Army officers interrogated a very old Indian relative to the elaborate carvings on nearby cliffs of which the Modocs of that time seemed to stand in superstitious awe. To emphasize their antiquity, the old Indian told his questioners that they had been inscribed by "my papa's, papa's, papa's papa," repeating the word "papa" until he was almost out of breath.

According to A. E. Meacham, for years Indian Commissioner of Southern Oregon and who had lived among the Modocs for years, the tribe had a somewhat fixed belief in a Messiah similar to that of the Christian faith. He also asserted that their legends included incidents paralleling those of the Christian Bible, such as the Biblical story of the Great Deluge and that of Lot's wife. Once in every so often a red-haired, light-skinned child was born into the tribe and Boston Charley, a pureblooded Modoc, hanged for his part in the Modoc War, was distinctively light complexioned.

The Modocs in their aboriginal state built hewn plank houses; they were found wearing warm clothing of buckskin and fur; manufactured quite elaborate rabbit skin blankets, and used dugout canoes on the streams and lakes within their hunting grounds. They were quite provident, drying large quantities of epau roots

and fish for winter food. As in the case of the neighboring tribes, the numerous deer of the region furnished them with a large part of their food and clothing.

Cruel and bloodthirsty, brave to the point of fanaticism, the Modocs gave battle to the first white men to invade their domain and fought the white invaders until the members of their tribe were exterminated, or departed to a residence in the Indian Territory. As a matter of fact, not a single Modoc Indian has lived in the present Modoc County since the early seventies, although a considerable number are domiciled in Oregon.

Emigrant Trails and Indian Warfare

The first white men to enter the Modoc country were Hudson Bay trappers in search of beaver and other furs. Modoc forest officers in 1926 found the crumbling remains of a trapper's cabin on Glass Mt. and evidence of trapping activities. A check against the surrounding tree growth placed the time the trapping took place as being in the late 1820's or early 1830's. Old Indians of the region somewhat verified this from stories handed down to them by their fathers. Peter Skene Ogden, for years Hudson Bay factor at Vancouver, mentions having been on Pit River in 1829. Three years later Ewing Young led a trapping party up Pit River from the Sacramento, but left no record behind other than the fact that it was bad Indian country.

The first real written record of the local area was that made by General John Charles Fremont, covering his expedition into Southern Oregon in the spring of 1846. Accompanied by the famous scout, Kit Carson and a force of fifty men, including his Delaware Indian scouts, Fremont traveled north through western Modoc County, following approximately the present route of the Great Northern Railway. Fremont's favorite French-Canadian scout, Archimbeau, leaving the main body for a hunt, was lost in the flat timbered country north of Big Valley, and the party camped for three days at what was later known as Cornell while waiting for the missing hunter to rejoin the expedition. Fremont mapped and described Tule Lake and nearby topographic features but failed to discover Clear Lake just over the hills to the east of where he made camp.

A few days after Archimbeau caught up with the command, special couriers overtook Fremont with orders to return south to take part in the War being waged against Mexico. Fremont split his party and hurried southward with 14 men. Having seen no Indians for some time, Fremont relaxed his usual vigilance with the result that his camp near Lower Klamath Lake was attacked one night while the white party was asleep. But for the quick ear of Kit Carson who awoke at the first sound, the entire white party would have been annihilated since the armed savages were in the center of the camp. In the fight, which ensued, Basil Lajeunesse - another of Fremont's favorite scouts - and two of the Delaware Indians were killed, and one man badly wounded.

Fremont censured himself as being responsible for this surprise attack and called the attacking Indians Klamaths. There is every reason to believe, however, from facts later coming to light, that this war party was composed of Modocs. Fremont afterwards states that these Indians, whom he punished badly when his main force later rejoined him, used steel arrowheads furnished them by the Hudson Bay Company and poisoned six inches back from the point. He declared that with the bows in-use' by the Indians these arrows could be driven into a pine tree for six inches from several paces distant.

When Dr. Marcus 'Whitman in 1842 led the largest single emigrant party ever to cross the country to Oregon, almost incredible hardships were encountered and few wheeled vehicles reached their ultimate Oregon destination. In spite of the tough going, emigration continued during the ensuing years and by 1846 a considerable settlement had been established in the Willamette Valley. More emigrants were constantly coming and livestock feed was short on the rugged route being used.

Peter Skene Ogden, who had trapped the Humboldt River in 1825, told the Oregon settlers that there was a much easier route further to the south but also informed them that the entire distance was infested by particularly fierce Indian tribes. However, the Oregon Territory needed settlers and an easier trail from the East, so an expedition to seek such was decided upon.

Leaders among the Oregon pioneers was the Applegate family, so it was quite appropriate that Lindsay Applegate, a surveyor and experienced frontier leader, should be chosen to search out and blaze the new route. With a party of fourteen men besides himself, Applegate left the Willamette Valley on June 22, 1846 and returned thereto on October 3, 1846, the members of the party being welcomed by their relatives in the Oregon settlements as ones returned from the dead. Applegate in these months laid out what was afterwards variously known as the Applegate Trail, the South Route and the Oregon Cutoff, reaching from Willamette Valley to Ft. Hall in Southern Idaho, an emigrant trail which later was probably more thoroughly soaked with emigrant blood than any other leading into California or Oregon.

Lindsay Applegate had no trouble with the Indians on his survey trip - nor did he intend to have any. His job was to provide the easiest possible route for the wagons of the emigrants, and he even designated camping places and daily travel distances. Each man of his party was well mounted and led a packhorse. Although well armed and equipped, they avoided Indians wherever possible. On occasion, Indians even helped the trailblazers by showing them springs and easier routes of travel. Henry Boygus, one of the youngest men of the party, was the only casualty of the trip, being murdered by Indians while separated from the main force. An Oregon-bound emigrant party which accompanied Applegate screw from Humboldt Valley on the return trip, proved the feasibility of the route for wagon travel.

The Applegate Trail after leaving Ft. Hall traversed the Humboldt Valley, the terrifying flat, waterless expanse of the Black Rock Desert, Soldier Meadows, High Rock Canyon and skirted Massacre Lake, entering present Modoc County through Forty-Nine Canyon. From this point the route continued north through Surprise Valley, crossing the Warner Range over Fandango Pass and entering Goose Lake Valley. From here the course led across the bed of Goose Lake if the lake was dry, or around the south end thereof if it was not. Crossing the rocky Devil's Garden, the way led past Blue Mt. and around Clear Lake to the east shore of Tule Lake, entering the Oregon country a short distance north of Bloody Point.

In later years, California-bound miners and emigrants left the Applegate Trail south of Goose Lake and followed Pit River south and southwest along the route laid out by Peter Lassen shortly after Applegate's explorations. The old original trails are still visible in many places on the Modoc Forest where iron-shod wagon wheels ground their way over rocky ground or through narrow defiles, notably

west of Goose Lake, just west of the old Pit River Ranger Station, and along the shores of Clear Lake.

How many people traveled the old emigrant trails of the Modoc region and how many lives were lost along the way will never be known. For years well-armed Oregon volunteers patrolled the South Route. Levi Scott, a member of Lindsay Applegate's trail-blazing party, led a large train through safely in 1847. Lester Hulin, Lane County, Oregon pioneer, left a detailed account of the passage of another large train the same year. So clearcut was the written description in his current diary that one can clearly identify present day Modoc Forest locations. Hulin's party came through safely although it fought a battle with Paiutes in Fandango Valley in which a sixteen-year old girl was so badly wounded by Indian arrows that she had to be carried on a litter across the rocky Devil's Garden.

The Carver Party of about fifty wagons made the trip to Willamette Valley in 1853 without the loss of life, but told on their arrival there of the road through the Black Rock Desert being strewn with abandoned wagons, household furniture, farm implements and rotting carcasses of animals which had died by thirst in that arid region. The same year the Oregon Volunteers escorted another party of 23 wagons, 87 people, 330 cattle, 29 loose horses and mules and 1,700 sheep through the worst part of the Indian country.

As the Western tide of emigration increased the tempo of Indian attacks increased also. Where the depredations of the Paiutes ceased that of the Modocs began. Individuals or small parties dropping behind the main emigrant cavalcade to which they belonged often fell an easy prey to the savages. In spite of constant warnings emigrants became careless and relaxed their vigilance, with tragic results. One of a large party of California-bound emigrants passing through Nevada near the present California State line found what he thought was gold bearing quartz. This being about the time of the great California gold rush when men's thoughts were permeated with dreams of the fabulous wealth of Western hills, groups of the emigrants straggled while searching for further evidence of the precious metal. Paiute Indians attacked the disorganized party in force and in a fight of several days duration; forty fighting men were killed, besides a number of women and children. Less than two-thirds of this big party got through, minus most of their livestock and personal possessions. Massacre Lake in this section owes its name to this running fight with the Indians and to the lives lost in other surprise Indian attacks in the same vicinity.

The only record of many emigrant massacres was often a circle of burned wagons and bleached human and animal skeletons found on the scene later. Two unknown emigrant parties of considerable strength, according to the remains discovered later, met a tragic end near Alturas some time in the fifties, one near the junction of Pit River, and the other on Rattlesnake Creek. Another party was surrounded and wiped out near the present Canby Bridge on Pit River.

Mention has already been made of the massacre of 1852, which gave the name to Bloody Point. In later years old Modoc Indians told Ft. Bidwell soldiers that many emigrant trains had been ambushed by their warriors at Bloody Point, where wagons were forced to closely pass a rank growth of tules on one side and a natural rock cover on the other.

Even in quite recent years, long barrels of Kentucky rifles favored by emigrants have been picked up all through Western Nevada and the Modoc country. Almost invariably, these are bent and twisted out of shape, mute evidence that some

beleaguered pioneer, having fired his last shot, twisted the barrel of his rifle out of shape in the stout spokes of the wagon wheels to render it useless to his savage attackers.

Although Ft. Hall on the main northern route to Oregon had been in operation since 1834, it was not until the early sixties that the military appeared in any force further to the west. Camp Warner in southeastern Oregon was established in the late fifties, as was Soldier Meadows on the Applegate Trail. Ft. Bidwell, in northern Surprise Valley, the most important post of all, was built in 1865-66, Ft. Crook in the Fall River Valley coming into existence about the same time. Military forces were installed about this period also in Ft. Klamath and Camp Harney in Southern Oregon. Meanwhile, both California and Oregon volunteers had, with the regular military forces, been taking toll of the hostile Indians. One notable case was that of 1853 when the war power of the fierce Modocs as a tribe was broken by Ben Wright, who with his Yreka volunteers adopted the Indians' own code of treacherous fighting.

Ben Wright had spent most of his life among the Indians and in spite of his being married to an Indian squaw by tribal custom, secretly hated them. He had adopted Indian ways of living and evidently had considerable influence among the leading men of the Modoc tribe. Incensed at the atrocities committed at Bloody Point, Wright raised a company of forty hard-bitten frontiersmen at Yreka and boldly marched into the Modoc country where he made camp. While the Indians waited patiently to discover the meaning of this armed white force in their midst, Wright prevailed on the Modoc leaders to call in all the tribe for a big feast and pow-wow at which the subject of peace terms with the incoming settlers would be discussed. Cattle had been slaughtered to provide for the feast and even the most astute of the Modoc chiefs seemed to have no suspicion of the white leader's intended treachery as whites and Indians fraternized between their adjacent camps on Lost River.

Early one morning Wright concealed his followers around the Modoc camp. He, himself, both hands holding pistols hidden beneath the blanket poncho he was wearing against the morning cold, strode into the middle of the Indian encampment. His shot at close range which killed one of the Modoc chiefs, was the signal for a fusillade from his followers who charged the camp. The surprise was complete. The white volunteers shot down Indians right and left, regardless of age or sex. Indians were pursued into the surrounding sagebrush and hunted down like rabbits. Many Indians plunged into Lost River and were shot before reaching safety. Although openly condemned for his treacherous act, Wright was secretly praised by the white settlers. While depredations of the Modocs continued on a smaller scale, more emigrants got safely through their hunting grounds after this incident.

In July, 1861 Sam Evans and Joe Bailey, well to do stockmen, with a party of 18 vaqueros, wagons and equipment, set out from Willamette Valley for the Virginia City mines driving a herd of nearly one thousand steers, worth *75 per head at the mines. The party was well armed and planned a leisurely summer trip to the mines with their cattle. Their way led through central Modoc County and just above the present town of Canby they were attacked by Indians. In the fight, which followed, both of the owners and one of their employees were killed by Indian arrows. The cattle were scattered far and wide and the outnumbered white party put to flight. Such incidents were of frequent occurrence and as in this case

were usually followed by punitive expeditions of blue-coated cavalymen from one of the frontier forts.

In 1866 General George Crook led one of these expeditions from the fort bearing his name and after chasing them through western Modoc County for days cornered an Indian band at the south end of Clear Lake. The Indians fought ferociously, several soldiers were killed and a number of others wounded, and the white force obliged to retreat.

The following year General Crook again personally led a punitive expedition through the Modoc country. Leaving Camp Warner with a force of 65 soldiers, a number of teamsters and packers and a group of Warm Spring Indian scouts, he worked south through the Indian country. Several times the savages gave battle as they played hide and seek with the soldiers along the north fork of Pit River, through the Pit River Valley to the Adin mountain Divide, then back east and south to the locality above South Fork Valley, now known as Crooks Canyon. Here the Indians were run to earth as they took refuge in a series of heavily fortified underground caverns. The Indian band, reduced in numbers by weeks of running fighting, numbered 120 warriors, mixed Shoshone and Paiutes, besides a few renegade Pits.

The Battle of Infernal Caverns which took place, fourteen miles south of the town of Alturas, has gone down in history as one of the most famous in Western Indian warfare. Crook's little force was in a tough spot. Far from any hope of succor, the entire command knew that their strongly entrenched, well-armed force was making a desperate, last ditch stand. Teamsters joined with soldiers in attacks on the Indian forts and General Crook fought with a rifle like a private soldier, personally killing three Indians, including a fanatical medicine man leader.

Lieut. John Madigan, one teamster, and six enlisted men were killed and one-fourth of the command wounded, most of them being shot at almost arm length distance in close-up combat. The Indians were badly punished, the whipped remnants of the party sneaking out of the caves at night almost under the very feet of the soldiers, and scattering over the country in all directions.

This was the last Indian fighting of consequence in almost the entire area of present Modoc County. Many Indians were killed during this campaign and sometimes their camps were treated to a fusillade of shots without much distinction as to the age or sex of the occupants. The intrepid Crook, however, somewhat spoiled the fruits of his cleanup campaign by a treaty concluded with the Pit leaders. This treaty guaranteed the tribe unrestricted hunting and fishing rights for all time and was the source of minor Indian conflicts for more than fifty years thereafter.

By the late sixties, bad Indians of the Modoc region were usually those who spasmodically wandered off their reservations and made themselves nuisances in the white settlements, where they frightened women and children and pilfered anything they could lay hands on. Of such a type were the Modoc warriors who, with a few renegades from various other tribes, precipitated the campaign of 1872-73. Dressed in white men's clothing, armed with modern fire-arms of the time, and some of them speaking fair English, Captain Jack's band of ragged warriors, numbering 71 fighting men at their greatest strength, held at bay for six months white military forces as much as twenty times greater than their own.

The decimation of the Modoc tribe by Ben Wright and their heavy losses of warriors in frequent clashes with the settlers and military forces brought about the decision of their war chief, the elder Schonchin, to seek a treaty of peace with the whites. He told the white officers that he had thought if he kept on killing the white emigrants they would eventually stay out of his tribal hunting grounds, but instead a greater number than ever kept coming. Most of his young men were killed, he stated, and he was ready to throw down his gun. The Modocs never broke the peace treaty signed by Schonchin as a tribe, although it was entirely unsatisfactory to some of the hotheads among them, since it took from them their old hunting grounds around Tule Lake. The fact that the Modocs were assigned to share a reservation with their hereditary foes, the Klamaths, also rankled, as did the indignity of their having to cut fence rails for the settlers, an occupation followed by the Klamath tribe.

A gradually increasing number of the dissatisfied Modocs gathered under the leadership of Kentipoos, or Captain Jack, whose father had been killed by Ben Wright almost twenty years before, and who was an implacable hater of the encroaching white race. The group known as Captain Jack's Band left the reservation at will. They wandered about the country from Tule Lake to Yreka, stealing live- stock and committing acts of pilferage. In spite of their later record as fighting men, these Indians were merely a ragged thieving band, often actually kicked away from the backdoors of settlers. They became such a pest that on November 8, 1872 military orders were sent to Captain James Jackson of the 1st U. S. Cavalry at Ft. Klamath to return the Modoc band to the Klamath Indian Reservation, the orders reading "peaceably if you can, forcibly if you must".

Captain Jackson, augmenting his force of forty soldiers with a body of settler volunteers, found the Indian party camped at Natural Bridge on Lost River, well armed and defiant. The Modoc band first surrendered, then decided to fight and although losing several of their own warriors, roundly defeated the white force, killing or wounding one-fourth of Jackson's entire command. Immediately after the battle, Captain Jack with the women and children and part of his warriors repaired to the lava bed region just south of Tule Lake and took refuge in an almost impregnable rock fortress honey-combed with caves and natural trenches, since known as Captain Jack's Stronghold.

Hooker Jim, one of Jack's lieutenants, with the balance of the band, made a more leisurely trip to the rocky stronghold through Tule Lake Valley, burning haystacks, killing cattle and murdering eighteen men and older boys as they were found engaged in their farm tasks. It is worthy of mention that neither then nor thereafter during the campaign did the Modoc band kill any women or children, although they riddled with bullets the Brotherton ranch house, successfully defended for three days by Charley Brotherton, a 12-year old son of the family and his mother, after the father and older brothers had been killed in the fields nearby.

The Modoc War was on. The name "Modoc" became a household word all over the nation. In many sections there was a sneaking sympathy for Captain Jack and the beleaguered Modocs, which perhaps accounted for the slowness of military operations against them. Secure in their impregnable natural lava fortress in "which writers of the time likened the Indians to "ants in a sponge", the Modoc band kept themselves well supplied with arms ammunition and provisions by raids on military pack and wagon trains. During their five months occupancy of the Stronghold, only one Indian was killed.

At the Land's Ranch, miles away from the Indians' central position, concealed Indians one evening in December, 1872 emptied the saddles of an Army detachment, killing three soldiers and wounding several others. A concerted action by the white troops on January 17, 1873 resulted in 45 soldier and volunteer casualties, half of this number being killed. In this particular fight about all the white troops saw of the Indians were the orange flashes from their guns, cutting through the fog, which covered the landscape. Most of the white troopers were shot through the body from below by Indians concealed at their very feet. Artillery battered the Stronghold for days on end, with only minor casualties to the besieged. Members of the Modoc band sometimes crept close to camps of the white forces and hurled defiance and insults in English at their erstwhile neighbors serving the local volunteers.

Two local stockmen, Pressley Dorris and John Fairchilds, who had previously employed some of the Modoc warriors on their ranches, boldly entered the Stronghold and spent the night with Captain Jack in his cave, the Indian leader preventing his followers from doing them harm. Jack was defiant in his attitude and the peace overtures of the two stockmen brought no results other than an agreement by the Modoc leader to a meeting with the white officials between the lines under a flag of truce. For this meeting a four man Peace Commission was appointed by Washington and they met with Jack and his lieutenants on April 11, 1873. Ready troops posted nearby could not prevent the cold-blooded murder by Captain Jack of General E. R. S. Canby, commander of the military forces, nor that of Rev. Ebenezer Thomas of Oakland by Jack's henchmen. A. B. Meacham, Superintendent of Indian Affairs, left for dead by the Modoc group, afterwards recovered. J. G. Dyer, U. S. Indian Agent and fourth member of the Peace Commission, escaped to the white lines unhurt.

Shortly following this Modoc treachery the Indians were driven from their caves and crevices in the more open lava beds by the expedient of pushing a cordon of troops between their stronghold and the water supply in Tule Lake. On April 26, 1873, an expedition of some eighty men and friendly Indian scouts, led by Captain Evan Thomas, failed to find the Indians, but the Indians found them instead, ambushing the white force while they were eating their noonday lunch almost in sight of the military camp on Tule Lake.

Chapter III - Creation And Purpose

Reasons for Setting Aside

When the first pioneers settled in Modoc County, the entire country was covered with a stand of waving grasses. Not only was this true of the valley meadows, but also of the vast sagebrush flats and mountain areas. There is no question but that the local stockmen themselves overstocked the ranges with cattle, horses and sheep, and paid little attention to any conservation measures, which might maintain their blossoming fruitfulness. Stock were turned out on the wild lands when the first green feed showed in the spring and the ground still wet and soft from winter storms, the greater part of the growing grass being tramped into the ground before it could establish a sturdy growth. Only when the snows of winter forced the cattle out of the hills into the lower valley areas were livestock - and not all of them - taken off the open range.

Most of the Modoc country was public land and therefore, free for all range, to be used on the basis of first come, first served. Cattle were driven to market from different points, being leisurely pastured en route so as to reach market points in prime condition. Since Modoc was the center of an immense territory isolated from markets and the only product of the region from which it was possible to derive a revenue was livestock capable of going to market on its own individual four feet, large herds of animals from widely divergent points, by their passage through the country, added to the demands on the Modoc ranges.

For the first ten or fifteen years after settlement, most of the livestock were cattle - and horses. Then came the sheep, first by the thousands, later by the tens of thousands. The transient sheepmen, whose stock had pretty well eaten themselves out of house and home in the forests of the main Sierra Nevada further south, about 1880, discovered the still luxuriant ranges of the Modoc country and the nomad sheep bands invaded the last great frontier ranges of California. It was a long way to trail sheep from the Sacramento Valley to the distant Modoc ranges but it was a paying proposition. The nomad sheepman, after lambing and shearing his ewes in the warmer climate of the Great Valley, started northeast, pasturing his band leisurely along the route. A few weeks' sojourn on the cooler mountain ranges produced fat lambs, which were trailed back to market in the fall.

Sheep increased on the Oregon ranges too and the outlet to market for their lambs also lay through the Modoc country. Local cattlemen - and sheepmen as well - gnashed their teeth in rage as they witnessed the hordes of outside sheep monopolizing the range at their back doors. Outside of a few intimidating shots fired in the direction of some of the bolder sheepherders, there was little the local populace could do about the situation since the range involved was public lands, open for use alike to alien and citizen.

County ordinances were passed discriminating against these outside sheep and imposing taxes thereon, but had no effect in reducing their numbers.

One of the protective county ordinances prohibited the grazing of sheep within a certain distance of the exterior limits of any homestead but since homesteads were often unfenced and their boundaries unmarked, the law was more honored in the breach than the observance. Modoc County regularly employed men to collect the taxes imposed on out-of-county bands. In the late nineties one of these employees one year collected fees on 90,000 head of sheep within an area of

around 100,000 acres. Another year a county officer collected taxes on 120,000 head of sheep, besides their trailing lambs, on an area of not more than 200,000 acres lying along the west side of the Warner Mts. Range.

By the turn of the century, a little more than three decades after their first general grazing use, the Modoc ranges were in a sorry condition and in places had become mere dust beds from the trampling of myriads of sharp hoofs. Local cattlemen faced a rather dreary-appearing future. Accustomed, as they were to untrammled use of the range themselves, without interference by any Government agency, it was not until 1903 that the Modoc stockmen got together sufficiently to take advantage of the relief offered by the Forest Reserve Act of March 3, 1891. That year a petition signed almost to the last man among the livestock and business interests of Modoc County was presented to the Government asking that a forest reserve be created.

Although the original forest reserve withdrawal action was based on petition of the local stockmen, official Washington, engaged in setting aside similar areas in the mountain territory of the west, had also in mind the additional factors of watershed protection and the existence of a large body of actual and potential timber lands included in the reserved area.

Forest Reserve Withdrawals

The proclamation of President Theodore Roosevelt on November 29, 1904 created the Warner Mountains Forest Reserve with a gross area of 306,518 acres, and the Modoc Forest Reserve of 288,218 acres gross area. To this the same President on February 13, 1908 added 570,000 acres additional, and on July 2, 1908 combined the Warner Mts. Modoc Divisions into administrative unit, known thereafter as the Modoc National Forest. It was also President Theodore Roosevelt who by his proclamation of February 25, 1909 added 306,281 acres more to the Modoc National Forest, which at the close of that year embraced a gross area of 1,471,817 acres.

The stockmen of southern Modoc County and northern Lassen County, looking towards the north, were favorably impressed with the new rangeland use policies inaugurated by the Forest Service. The nomad sheepmen had been banished from the ranges of the reserved section and grazing conditions greatly improved for the local livestock interests. Another petition for more reserved lands went to Washington, with the result that President Taft by his proclamation of December 23, 1910, added 182,050 acres more to the Modoc National Forest, an area locally known as the Haydenhill Addition. At the same time he eliminated 70,967 acres because under the exact wording of the original Forest Reserve Act the lands involved were not considered of sufficient value for watershed protection and timber production to justify their retention within a national forest. On January 1, 1911 the Modoc National Forest included a gross area of 1,582,900 acres.

The Modoc Forest was ringed around with large areas of public lands open to virtually all forms of unrestricted use by citizen and alien alike. Spasmodic efforts were made by stockmen from time to time to have all or some of these public domain lands included with the national forest boundaries but no real concerted action was taken until 1919 when a petition to Congress was prepared asking that a large area adjoining the Forest boundaries in the vicinity of Tule and Clear Lakes be included in the Modoc Forest. Here Oregon sheepmen, mainly non-citizens of Irish extraction, battled each other for the use of the range,

shooting affairs being a not uncommon occurrence. The range itself was eaten off almost into the very ground.

Several local cattlemen initiated the petition to have this large area of public domain added to the Modoc National Forest, but failed to follow through to final action. John Davis, former sheep man, secretary of the Modoc Woolgrowers Association and afterwards assessor of Modoc County, commanded the respect of the local cowmen and also had a lot of influence with the Irish flock masters of that section. To Davis almost alone goes the credit of securing the signature of every local stockman and range user to a petition, which he presented to Washington authorities through his friend, Congressman John E. Raker who was also much interested in saving public lands in that section from further misuse.

The Forest Service was decidedly neutral about taking over the administration of this large wild land area of woodland, rough lava beds and sagebrush hills, but the job was dumped into its lap when on October 1, 1920, President Woodrow Wilson's proclamation added the area of 323,226 acres to the Modoc National Forest. This was the last area of public domain of any consequence to be added to the national forests of California.

The Modoc National Forest now had a gross area of 1,907,365 acres within its boundaries. Exchanges of private land for stumpage added to the area in subsequent years, so that on June 30, 1944, its total gross area stood at 1,920,953 acres.

An area of approximately 45,000 acres of public lands lying within the northwestern part of the Modoc National Forest is not under Forest Service jurisdiction. As briefly mentioned before, this area includes the central scenes of the Modoc Indian War of 1872-73 and is a lava bed region of more than usual interest.

On July 1, 1925, President Calvin Coolidge signed a bill making this interesting area the Lava Beds National Monument and including also a small area to the northeast containing a cliff ornamented with unusual Indian petroglyphs of unknown antiquity. Within the next eight years caves were made easily accessible, historic spots located and marked, and roads and trails constructed among the rough lava flows. In 1933, President Franklin D. Roosevelt issued an executive order turning over the administration of national monuments to the U. S. National Park Service. The following spring the Federal Park Service took over the actual administration of the Lava Beds National Monument and have since continued the development work.

Caves, the rounded domes of which are almost 100 feet above the rocky floors; other caves oppressively hot and still others containing rivers of ice; passageways deep underground forming a maze of tunnels; natural bridges and deep fumaroles, as well as the forts which served red and white man alike in duels to the death, make up an area which proves a drawing card annually to thousands of visitors in normal times.

Chapter IV - Topography, Flora And Climate

Diversified Terrain

The east side of the Warner Mountains Division of the Modoc National Forest, separated from the bulk of the forest area by Goose Lake, Goose Lake Valley, and Pit River Valley is very rugged and abrupt. It is pierced by scores of steep canyons carrying their purling waters to Surprise Valley, lying at the very foot of the mountain rampart. The east side of the Warner Range is, in fact, a small-scale replica of its parent range to the south, the main Sierra Nevada.

The west side of the Warner Range is much less rugged in character, along the approximately south half of its distance in California a rocky tableland gently merging into the lower-lying hills of the mountain range. Along the north end within the State, and extending over into Oregon, The Goose Lake Valley nestles against fairly rugged foothills lying below the main summit.

The highest point in the Modoc Forest is reached by Eagle Peak in the center of the southern Warners, 9,906 feet, although Warren Peak, some ten miles further north in the heart of the same range, reaches an altitude of 9,722 feet. The summit of Mt. Vida, the highest point in the extreme north end of the Warners Division, lies 8,250 feet above sea level. Several peaks along the serrated ridge, which constitutes the approximate 65-mile stretch of the Warners within the Modoc National Forest, have elevations ranging from 7,000 to 8,000 feet. The summit of each of the two main passes over the range, Cedar and Fandango, lie at an elevation of approximately 6,300 feet.

North of Alturas and the Pit River Valley lies the Devil's Garden, a large rocky plateau region extending over into Oregon on the north and into the Clear Lake Hills on the west. Lifting from the Pit River Valley west and southwest is another large timbered plateau, the most dominant, rather lone, high point in half a million acres of terrain being Happy Camp Mountain, 6,240 feet high. The southern section of the main division of the Forest breaks into a rather high mountain country, the highest points being Schaeffer Mt., 6,600 feet, and South Fork Peak, 7,343 feet, tapering east and south of Big Valley into lower-lying hills. The entire Modoc Forest is quite accessible, and every one of the nine primary fire lookout stations can be easily reached by automobile.

The valley farm lands of the Modoc country; mixed so closely with the wild land terrain, range in elevation from 4,000 to 5,000 feet. In places the national forest boundary is gouged out where large-sized necks of arable land extend into the wild lands. The elevation of Alturas, county seat and approximate geographic center, is 4,446 feet at the level of Pit River flowing through the town.

The mountain divide, the summit of which forms the boundary between the Modoc and Shasta Forests, presents several lofty peaks, the highest of which are Lyons Peak with an elevation of 7,903 feet, and Glass Mountain, 7,852 feet. The eastern slope of this latter includes a field of vari-colored obsidian rock, resembling nothing so much as masses of broken glass of different hues. In the fall of 1927, just west of the main peak of Glass Mt., Forest officers discovered an unusual area of about one acre of the white pumice, which represents the soil composition of many square miles of that section. This spot is entirely devoid of vegetation, although ringed by the only green grass growth existent for miles around. The surface of the ground is merely hot to the touch but a few inches

beneath the surface crust the pumice is moist and cannot be handled until cooled somewhat. The pumice pebbles can then be crushed in the hands like so much putty. Nearby is an open vent from which sulphurous fumes issue as well as a distinct cloud of steam, sometimes visible from a distance during the coldest winter days. This gives every evidence that there are still slumbering fires in the heart of Glass Mt., the last eruption of which, geologists say, occurred some 300 years ago.

Here and there within the Modoc Forest are found large adobe, sage-covered flats on which not a single pebble or rock exists. Other extensive flats are found, particularly in the Devil's Garden area, where smallish-sized round rocks of the type locally called "nigger-heads", cover the ground to such an extent that bare spots of soil can be measured in a matter of square inches.

Most of the western division of the Forest is of recent volcanic origin, geologically speaking, and one level area of approximately 175 square miles is known to the local forest officers as the "Timbered Lavas". Here in the pumice soil, in old craters and amid rocky lava walls a surprisingly good stand of merchantable ponderosa and Jeffrey pine timber is found - much of it logged off in recent years.

Rushing mountain streams, snow-capped peaks and alpine lakes of great beauty mingle with the pine and fir forests of the Warner Range. In the western division of the Modoc Forest, forests of almost pure ponderosa pine break unexpectedly into large rocky flats. The bleak and rather forbidden Devil's Garden surprises one with its interspersed timbered ridges, its natural meadows and the transition in its northern sector into extensive pine forests. Bare lava cinder cones, -red or black -thrust up haphazardly from a level plain. Valley lands of deep, rich soil abruptly terminates in rocky sagebrush flats. All in all, the Modoc Forest terrain is about as diversified as any found in the West.

Tree, Shrub and Plant Growth

The ponderosa pine, with its twin sister, the Jeffrey pine, and classed together in local timber vernacular, is the chief lumber tree of the Modoc region. Fine groves of this forest monarch cover the gentler slopes of the Warners from end to end, the entire western half of the Forest, the north end of the Devil's Garden section, and the ranges extending south within the national forest area in Lassen County. The pine stand of the Modoc Forest is part of the same general ponderosa pine forest, which covers northeastern California and southern Oregon.

Almost invariably mixed in the stands of ponderosa pine is found the white fir, which continues on to higher elevations than the ponderosa. Many of the north slopes of the Warner Mountains carry pure stands of white fir, the same being true of other parts of the forested area lying above 6,000 feet elevation. A beautiful tree in its youth and prime - and beautiful at any age when viewed from a distance - the white fir has only a fraction of the value of the ponderosa or Jeffrey for lumber purposes, having a tendency to become afflicted with heart rot after reaching maturity. Until recent years this tree has been decidedly unpopular with lumbermen because of the brittleness of its wood and the tendency of its lumber to check when exposed to the weather. Individual white fir trees sometimes reach a height of 125 feet and a breast high, diameter of forty inches. Dense thickets of this shade-loving tree are a common feature of the higher sections of the Modoc landscape.

Commercially akin to the white fir in its unpopularity as a lumber tree is the incense cedar, also found in abundance among the ponderosa and Jeffrey pines in the Modoc area up to elevations of 6,000 feet. With its vivid green foliage it is a beautiful tree at any age. The incense cedar never occurs in pure stands of any scope. A long-lived tree, like the white fir it is very prone to heart rot. It reaches an immense size and is utilized mainly for fence posts. During the eighties when labor was cheap and barb wire scarce and high-priced cowmen in the Happy Camp section built some twenty-five miles of snake fence with rails split from the straight-grained incense cedar, some sections of which still stand today.

In the southwestern part of the Modoc Forest are found a considerable number of sugar pine trees, which range north as far as the east slopes of Glass Mountain. While this king of California lumber trees does not grow as prolifically in Modoc as in the main Sierra Nevada Range, such as are found mixed in the ponderosa pine stands often reach heroic proportions, sometimes being as large as sixty inches in diameter and the clean boles containing as much as three or four clear sixteen-foot logs.

The Western juniper is irrevocably tied into Modoc County history and development. On the Devil's Garden District is what is conceded to be the largest unbroken body of Western juniper (*Juniperus Occidentalis*) in the world, covering some 300,000 acres. Extremely slow growing, often knotty and tough, the local juniper has furnished posts, poles and fuel for farmers and urban use ever since the county was first settled. Its close-grained wood is extremely durable. Fence posts set in wet valley ground for as long as forty years have been taken up and reset in the same earth to continue no one knows how much longer. Although often grotesquely gnarled and stunted, and usually growing not more than twenty feet high, it extends its giant roots for great distances sometimes along the very surface of rocky ground, establishing a tree growth which often relieves an otherwise barren landscape.

On good sites it will grow symmetrically to a height of forty feet or more and attain a diameter of eighteen to twenty-four inches. It takes possession of rocky flats to crowd up against the more choosy pine trees. One Western juniper, a lone specimen of its kind in a pine stand of timber on the Happy Canyon District, was burned down by a fire in the early thirties. This tree measured almost ninety feet from roots to tip and thirty-six inches in diameter five feet above its root base. Another magnificent juniper specimen in the same district spreads its giant, low-hung branches over almost half an acre of ground. The acrid tasting, bright purple berries with which this tree is loaded, utilized somewhat in other sections, have attained no commercial prominence on the Modoc. There is no record as to what use the Japs made of three pounds of juniper berries sent by the Modoc to the Director of the Forest Experiment Station, Keejyo, Chosen, Japan in November 1925 for experimental planting.

Generally the only other tree species found in juniper woodland is the mountain mahogany which probably attains its best growth in the State along the rim rocks of the Modoc Forest. With wood of an iron-like hardness, a straight trunk or branch of more than six or eight feet is a novelty. Highly prized for fuel it is cut to a limited extent for this purpose. In some sections mountain mahogany adorns the hillsides in rather regular patches, homesick emigrants of the 1840's recording in their diaries the close resemblance of distance mahogany groves to Eastern apple orchards.

Groups of white-barked quaking aspen are found all through the Modoc Forest, the quivering leaves of this tree presenting a golden glow on the landscape in the fall of the year. In a very gnarled and stunted form this species climbs even the higher slopes, well above the regular timberline.

A fairly extensive stand of lodge pole pine occurs in the extreme north end of the Warner Mountains and the beautiful Western white pine is found occasionally in the same range. Most of the mountain oak trees occurring in the hills around the Big Valley area are little more than overgrown shrubs. The ever-present willow grows in profusion along practically every stream in the Modoc Country, intermingled with the larger cottonwoods. Canyons are choked with the lesser tree growth of such species as wild plum and chokecherry. Practically all the native tree species of the main Sierra Nevada Range except the Sequoias are found more or less in the Modoc National Forest.

The commonest introduced tree species flourishing the valley areas are the poplars, Lombardy, Carolina and the silver variety. The box elder is common. Black walnut, first started in Surprise Valley sixty or seventy years ago, has done well there. Elms of various species are becoming a common shade tree. Covered wagon pioneers brought slips of a gray willow species from their old home in Illinois to Surprise Valley in the middle sixties. About 1917 forest officers began introducing this tree further west and it has since spread over much of the county. A quick growing species, it is locally known as the Barber Willow, after its pioneer importers.

While the chaparral expanses of other sections of California are absent, brush fields which followed fires that destroyed the original timber cover are found here and there throughout the Modoc Forest. Mixed with twisted manzanita, the main species found in such areas is the crawling snowbrush, its green-leaved serpentine branches hugging the ground; -in tangled masses as much as fifteen feet from the parent rootstock. A notable feature of these brush fields is the new timber growth re-establishing itself in the tangled masses of brush by virtue of fire protection during recent decades.

In the Modoc section one can never be far away from the pungent odor of the purple sage, the commonest shrub of the local hills and plateaus. In areas of deep, rich soil, sagebrush reaches almost tree-like proportions in growth. It forms a protective cover for the native bunch grass over a large part of the Modoc ranges. Fraternizing with the sagebrush is found the rabbit brush with its purple gray stems and yellow flowers, hardly distinguishable from the larger sage shrub itself. Because of its immense reaches of the purple sage, a writer of the 1920's visiting Modoc for the first time said it was "more Nevada than California" and further characterized isolated Modoc as "the land California forgot."

Buckbrush or bitterbrush, dominates almost the entire Modoc Forest area and adjacent wild lands, being found growing in the pine timber as well as on the more open plateaus and hills. It furnishes the principal forage for both wild deer and domestic sheep. The Ribes tribe makes a prolific growth in the region, gooseberry and currant bushes being prevalent over all the Forest's area. When wild currants are ripe, the rather sterile lava bed region is a Mecca for literally myriads of birds of different species. Rather unusual is the occurrence of a large field of chinquapin on the western slopes of Glass Mt. It attains fully as luxuriant a growth in this unusual location as it does in its natural habitat at lower elevations.

Flowers of the Modoc region are many and varied. Almost overnight following the melted snow, fragrant, short-stemmed star anemones appear for a short existence on rocky south slopes. The rocky Devil's Garden country in early spring produces a veritable carpet of wild pansies, pink and red owl clover, yellow primroses and pick shooting stars.

The short-lived pink bleeding heart is followed by the purple cockscomb. Until quite late in the season purple lupine grows in masses all over the landscape and swampy meadows are colored blue with a rank growth of iris. Tall larkspur grows everywhere; skunk cabbage takes possession of the mountain meadows and wild parsnip chokes areas of damp soil. Fern growth is not common in the region and the same may be said of poison oak, which is such a dread in some forested areas of the State.

In the earlier months of spring the country is dominated by waving ranks of yellow buttercups and still later the same yellow note is carried by the large showy sunflowers, which - forage plants as well - are found growing all over the Forest except in the dense timber. With its delicate blue flowers and slender stems. Wild flax covers the warmer and lighter soils of the western part of the Forest. Sharing the landscape with the dull red of the Indian paintbrush. Massed thickets of wild roses spread their delicate fragrance on the air at the lower elevations. The late John H. Hatton, after an inspection tour of the Modoc Forest in late May one year, wrote, "The whole Modoc area is one vast flower garden."

Modoc Weather

The most fitting description of the Modoc climate is that is "unpredictable." Modoc County wrote back jubilantly to their friends and erstwhile neighbors in Missouri of the waving fields of native bunchgrass and cited the fact that livestock could be left on the range yearlong. Stock raising, they said, was mainly a matter of riding around and watching the stock grow fat. They soon found out differently. It was not long till they were forced to grow and harvest hay for sketchy winter-feeding. Then came the winter of 1874-75. Deep snow and cold weather set in -in November and lasted steadily till April. For an entire month night temperatures registered 35 to 40 below zero. More than half of the livestock of Modoc County was wiped out. After this severe winter local hay production was increased many times over.

Some Modoc winters are open and mild. This writer once had pansies blooming in his yard the winter through, the only protection afforded them being the overhanging eaves of the dwelling house. Other winters are long and severe, with deep snows. Cold spells in winter come almost without warning. The same vacillating weather conduct marks the Modoc summers. Hot and cold spells come with unexpected suddenness and killing frosts occur some years in June and July. The fall weather, however, is of the sort about which poets rave. Indian summer with its crystal clear air, balmy days and nippy nights, sometimes extends clear through the Yuletide season.

In most of Modoc County during the winter of 1916-17, zero weather occurred every month from November to March, inclusive. For two weeks in January the warmest minimum night temperature in central Modoc county was eleven; below and for several nights in succession it was thirty below. Thousands of cattle were fed along the tracks of the N. C. & O. Railway on baled hay shipped in at \$30 and more per ton, an unheard of price at that time. One Thanksgiving Day in the early twenties a cold northern came in with such suddenness that thousands of

migrating wild ducks and geese, weighted down by icy spray on their wings, were frozen solid in the shallow waters of Goose Lake on which they had chosen to rest.

On April 25, 1922, there was still a foot of snow on the lower elevations of the Devil's Garden Plateau, and in Jess Valley, two feet of snow packed hard enough to support a man. The railroad track across the Madeline Plains was lined with the carcasses of dead sheep. Coyotes, made brave by hunger, invaded barn lots and killed sheep, lambs and poultry. Old Indians have told of similar hard winters when members of their tribe died by the hundreds.

Modoc precipitation is as uncertain as its temperatures. The fluctuating waters of Goose Lake furnish a fair example. During the 1850's, Oregon-bound immigrants drove their Conestoga wagons across Goose Lake among a series of seeping ground springs. In the fall of 1872, soldiers from Fort Bidwell en-route to the Modoc Indian war mired their pack animals in the overflowed slough at the south end of the lake. In August 1912 forest officers used a rowboat to examine homestead claims all along the west shore of Goose Lake, pulling the boat the entire length of the lake. In 1922 the lake was again practically dry, the old immigrant route across its center plainly visible. At the present time it is again a considerable body of water.

Over a long period of years the average annual precipitation records show 13 inches at Alturas; 15 inches at Cedarville, and 21 inches at Fort Bidwell. Late spring rains which keep forage green and growing spell prosperity in the Modoc range country; the lack of them the reverse. During the years 1906 to 1919, inclusive, the average total rainfall for the months of April, May and June was 1.70 inches, with a lessening amount in years following. Back in 1913 5.96 inches came during these three months. An all time record of spring rainfall was established in 1945, a total of 7.10 inches falling between April 1 and June 15, of which 5.22 inches came during the last ten days of May and the first fifteen days of June.

Chapter V - Administration And Personnel

Supervisors in Charge and Terms of Service

Forest Inspector H. D. Lanville of Washington, struggling with the administrative problems of the newly created Warner Mountains and Modoc Reserves, on February 28, 1905 wired Forest Supervisor Charles H. Shinn of the Sierra Forest Reserve, "Ranger Hogue wanted on Modoc Reserve. Advise him to prepare to go at once. Letter follows." The verifying letter was dated from Washington the following day and, signed by Chief Forester Gifford Pinchot, formally appointed A. H. Hogue as the first supervisor in charge of these new Modoc county reserves. Hogue, a ranger of the old time type, served in the position for two years and did a good job, but felt more at home in his old stamping grounds of the Sierra Nevada. He was transferred to the supervisor-ship of the Inyo National Forest in the spring of 1907.

Christopher E. (Chris) Rachford succeeded Hogue as supervisor of the Warner Mountains and Modoc Reserves. Rachford was Modoc born and bred, and before entering the Forest Service in 1905 had been engaged in the sheep business. In later years, when he was assistant chief forester of the United States, Chris used to laughingly recall that he served under Hogue one full season in charge of the entire eastern slope of the Warners, wearing out three good horses and almost himself in the process. His salary was \$75 per month to maintain himself and three head of horses on a constant travel basis. Rachford remained in charge of the Modoc Forest until May 1, 1914 when he was transferred to the supervisor-ship of the Santa Barbara National Forest. From this position he graduated into that of Assistant District Forester of the California Region, later to be transferred to Washington. Rachford retired from the Forest Service in 1941 and following a couple of years of special war work located on a ranch in Arizona William G. Durbin, deputy supervisor on the Pumas National Forest, assumed duty as supervisor in charge of the Modoc succeeding Rachford, and filled the position until May 1, 1923 when he was transferred to the supervisor ship of the Lassen National Forest. Durbin had served as special timber cruiser and in various other positions in forested areas of the East, South and West. An intensely hard worker himself, he demanded a maximum of physical labor from the men serving under him. Much of the large volume of development work on the Modoc Forest during his administration was performed by the manual efforts of Durbin, his rangers and guards, and members of his staff. He was retired from the supervisorship of the Lassen National Forest in early 1933 on account of age limitation but was immediately picked up by the State Forestry organization as a district inspector for the Civilian Conservation Corps, which position he filled until his unexpected death at Sacramento in 1936 at the age of 65. Big-hearted Bill Durbin would give the very shirt off his back to anyone in need, and was much loved in the Modoc community. Generous though he was with his own personal possessions, he was extremely penurious when it came to the expenditure of Government funds and his administration was noted for its economy. Although working on the most accessible national forest in the California Region Durbin drove a team and cart after other forest officers had taken to the use of autos in their daily work.

George W. Lyons took over as supervisor of the Modoc Forest on May 1, 1923, being transferred from the Tahoe Forest where he had been serving as assistant supervisor. Lyons, who graduated with the degree of MSF from the University of Michigan in 1911, continued the two-fisted, hard - working policies initiated by

Durbin and contributed much to the Modoc's development. He died on April 16, 1929 at the age of 48 from the effects of burns received in the explosion of a gasoline lantern while on duty in the Modoc Lava Beds.

Fred P. Cronemiller first entered the Forest Service as guard on the Fremont Forest in 1913 and shortly after receiving his college degree went to France as a member of the A. E. F. in World War No. I, being assigned to the Modoc National Forest at the time of his entrance into the armed forces. After the war, Cronemiller served as grazing specialist again on the Modoc, on the Mendocino and on the Utah ranges, being assigned in 1926 as assistant chief of grazing in the California Region. From this position he was appointed supervisor in charge of the Modoc Forest in May, 1929, occupying this position till May 1, 1935 when he was transferred to his present position of Assistant Regional Forester at San Francisco. Cronemiller's term of administration was marked by intensive railroad development, the advent of the Civilian Conservation Corps and the start of heavy timber operations in the Modoc area.

William S. Brown, executive assistant on the Modoc from 1911 to 1935, was in charge of the Forest as acting supervisor for several months in 1921 and 1922 during the absence of Supervisor Durbin on special work in Oregon. He was again placed in charge by Regional Forester S. B. Show from October 1933 to April 1935 while Supervisor Cronemiller was detailed to State-wide work. P. D. Hanson, now Regional Forester of the Northern Forest Service Region, relieved Brown as Acting Supervisor during the period May to August 1934.

Russell W. Beeson, who had had a wide forestry experience - particularly on grazing work - in Montana, and State-wide on the national forests of California, was appointed supervisor of the Modoc on April 16, 1915 and served in that capacity till March 16, 1941 when his services were requisitioned for State-wide cooperative work. The drought period, starting during Cronemiller's regime, resulted in some very bad fires and range feed shortages, bringing about many complex problems during Beeson's administration, problems which had been in the making for years during the national depression and resultant poor livestock markets. The Grazing Service of the U. S. Department of the Interior took over the administration of large areas of public domain, lands surrounding the Modoc Forest about the time Supervisor Beeson took charge. This further complicated local administration, since Modoc stockmen did not take too kindly to the matter of having to do business with two different Government agencies in connection with their livestock pasturage.

Joseph E. Elliott, another versatile old time forest officer of the California Region, took charge of the Modoc National Forest as supervisor on March 16, 1941. Elliott entered the Forest Service as guard on the Stanislaus in 1908, serving through various ranks till his appointment as deputy supervisor of the Lassen Forest on March 16, 1922. Joe, as he is familiarly known to his associates, was made supervisor of the Cleveland Forest April 15, 1925; of the San Bernardino, March 25, 1929 and of the Sequoia, March 18, 1935. He served as supervisor of the Modoc till March 16, 1944 when he was transferred to the supervisorship of the Lassen National Forest. He has been serving again as supervisor of the Sequoia National Forest since April 16, 1945. Elliott naturally brought a vast experience in various forest problems with him to the Modoc. During his three years of administration of that unit, he plunged with his force into all forms of war work, as the Modoc citizenry generally went into an all-out war effort in timber and livestock production.

The younger generation of foresters came into the picture when Melvin E. Barron was appointed supervisor of the Modoc on February 16, 1944. Barron entered the Forest Service on September 18, 1933, serving successively with the California Forest and Range Experiment Station and on the Trinity, Shasta, Angeles, and Mendocino National Forests, on the last two of which as assistant supervisor. He was made supervisor of the Mendocino Forest on November 1, 1942, coming from that Forest to the Modoc. The same close relationship and cooperation with local officials and organizations existing through the years of Forest Service administration, has also marked Barron's administration of the Modoc Forest.

Old Time Rangers and Other Employees

For the first couple of years of administration the two forest reserves, later combined to form the Modoc National Forest, were managed almost alone by A. H. Hogue, C. E. Rachford, Vernon L. Bonner, E. D. Payne and James F. Poore. The early-day rangers were all young local stockmen inducted into the Forest Service through the medium of the rather stiff field examination tests of that time. By the end of 1910, Rachford had the Modoc force pretty well organized. On July 1, 1911, the following represented the entire personnel of the Modoc National Forest:

Christopher E. Rachford, Forest Supervisor
Vernon L. Bonner, Deputy Forest Supervisor
Belknap C. Goldsmith, Forest Assistant
Wm. S. Brown, Forest Clerk
Ernest D. Payne, Forest Ranger
Andrew F. Layton, Deputy Forest Ranger
Frank B. Van Horn, Assistant Forest Ranger
Roy L. Snelling, Assistant Forest Ranger
Laurence L. Smith, Assistant Forest Ranger
George W. Perkins, Assistant Forest Ranger
Wm. J. Lunsford, Assistant Forest Ranger
James F. Davis, Assistant Forest Ranger
George A. Kresge, Assistant Forest Ranger
James F. Poore, Assistant Forest Ranger
George Bettendorff, Assistant Forest Ranger
Charles O. Leonard, Assistant Forest Ranger

Miss Carrie Bowers, afterwards Mrs. James F. Poore, served as the first clerk on the Modoc Forest. The following were added to the force in late 1911 or early 1912:

Lillian R. Jones, Stenographer and Typist
Charles D. Meissner, Assistant Forest Ranger
Isaac Santure, Forest Guard
Nick Tisserand, Forest Guard
Eli Dale, Forest Guard
George W. Courtright, Forest Guard
John B. Layton, Forest Guard

Vernon L. Bonner was a queer mixture of woodsman, trapper, farmer and scientist. He was reared in the Sugar Hill section and one of his chief sources of

income for years was shooting wild honker geese on Goose Lake which he killed by the thousands and sold at Lakeview, Oregon for 25 cents each, regardless of size. Once after maneuvering half an hour for position he killed 15 large geese with his last cartridge. Bonner was a self made engineer and surveyor and when in 1912 the Forest Service furnished him with a brand new transit, he kept it at night alongside his bed. He would frequently get up in the middle of a cold winter night to work out some engineering problem and when engaged on a survey job was almost oblivious to time or any need of food or sleep. After eight years on the Modoc Forest his talents were requisitioned by the District Office to which he was transferred in 1914. He shortly afterwards resigned from the Forest Service and later died suddenly in Oakland, California.

Belknap C. Goldsmith, a Yale forestry graduate, was the first technical forester to be assigned to the Modoc Forest assuming duty in 1909. He did a pretty thorough job of teaching Modoc officers and local lumbermen common sense forestry practices and putting conservation lumbering on the map, as it were, in the remote Modoc territory. He was transferred to the Shasta Forest where he served for years in charge of timber sale work, and afterwards to the Tahoe Forest from which he retired in 1944 because of age limitation.

Ernest D. Payne, big raw-boned ranger of the six-gun type, started duty in 1906 and resigned from the service in 1913 to LO back to his ranch near Alturas. Roy L. Snelling resigned in 1917 to engage in farming near Turlock. George W. Perkins resigned at the end of 1911 to become a Goose Lake Valley rancher. Perkins has been a Modoc county supervisor for the past several years.

Laurence L. Smith served continuously on the Modoc National Forest from 1908 until his retirement a couple of years ago. Except for a few years as ranger in charge of the Doublehead district, he was district ranger on the North Warners district during his entire term of service. He is living now on his own land within a stone's throw of the first ranger cabin built on the Modoc Forest amid the people whom he so long served. "Larry" Smith's good-natured cooperativeness and his ready laugh even when the going was toughest made him the most popular of forest officers, both with the local users and his working associates.

Andrew F. Layton and Wm. J. Lunsford both resigned from the Forest Service in 1914 after eight years of duty. Layton died in Alturas in 1925. Lunsford worked for years with the State Division of Highways and at present is back with the Forest Service as equipment operator. George. Bettendorff resigned in 1912 and took up farming. John A. Kresge resigned in 1913 and became a successful Round Valley rancher. His twin brother, George Kresge, also left the Service in 1916 afterwards going into the building contracting business. James F. Davis resigned in 1915 to become an employee of the State Division of Highways. Charles O. Leonard died near Alturas during the flu epidemic of 1919 while still in the Service. Chase D. Meissner, a capable architect and draftsman, was transferred to the District Office as a building specialist and was responsible for many of the earlier Regional building plans. He resigned that position to become a successful building contractor at Modesto.

James F. Poore was one of the colorful early-day Modoc rangers and the first ranger in charge of the Haydenhill Addition surrounding Big Valley. He resigned in 1918 to be elected sheriff of Modoc County, which position he filled for many years. Stepping out of the sheriff's job, he was immediately elected county

supervisor from central Surprise Valley to serve in that capacity for many years more. Recently he moved to Sacramento to live in semi-retirement.

Too much space would be required to give even passing mention to the many forest officers who contributed to the development of the Modoc Forest. Oscar M Evans replaced B. C. Goldsmith as technical timber man and when Evans was transferred to statewide functions, he was succeeded by Roscoe B. Weaver. Weaver quit to engage in farming and later in cooperative forestry work. Orville P. Burnett followed Weaver and spent several years on the Modoc Forest. After service in several field units and in the Regional Office, Burnett died near San Francisco in 1943, as an indirect result of overseas service in World War I. Robert R. Riley took Burnett's place on local timber management work, to be replaced by Russell S. Bacon in November 1928. Bacon has creditably filled this position since and also headed up land exchange work on the Modoc. So enthusiastic has been Bacon's land exchange activities, that he is jokingly referred to on the force as the "real estate operator."

LeLand S. Smith, who recently retired from the Tahoe Forest by reason of age limitation, was assigned to the Modoc as a grazing technician in 1917. Smith, an expert botanist, spent years on the Forest completing grazing management plans. He was succeeded by Ranger Lee R. DeCamp, who specialized in grazing administration until his transfer to a similar position on the Plumas Forest in 1943. Floyd Iverson, now supervisor of the Inyo Forest, took over DeCamp's duties and functioned later as ranger in charge of three consolidated districts. Dan A. Davis, road foreman, has served continuously in that position on the Modoc since 1924. Davis, born and reared in Modoc county, knew practically every foot of the Modoc terrain and became the right hand man of the supervisor on large fires.

Other old time forest officers of the Modoc were Rangers Ivan F. Cuff, John C. Davis, Albert W. Bramhall and Fred J. Looley. Cuff, returning from overseas with the A.E.F. in 1919, took charge of the Happy Camp district and filled this position for 23 years. He built up a ranger district fire organization second to none in the West. A woodsman of the first water, Cuff's physical endurance and love of hard work became a Modoc tradition. He saved the day on many bad fires. Once in his early days of Happy Camp district administration he went with saddle and packhorse to a reported lightning fire in a hazardous area. Cuff found the fire burning in the top of an immense ponderosa pine tree. He could not leave the fire to summon help and it might be days before the tree burned down so that it could be handled by ordinary fire-fighting methods. Meanwhile there were other fires on the district demanding his attention. Cuff went to work, chopped the tree down, and put the fire out. Ten hours did the job, eight of which were spent in chopping down the tree which, measured afterwards, proved to be fifty inches in diameter, breast high. Cuff was transferred to the Northern Warners District in 1942 and two years later to his present position as timber sale ranger on the Tahoe Forest.

When it came to physical endurance, John C. Davis was a close second to Ranger Cuff. Born and raised in Modoc County, he entered the Forest Service in 1915 and was placed in charge of the Devil's Garden district. Later he took over the North Warners district then the Big Valley district, return-again to duty on the Devil's Garden district. Davis knows the Devil's Garden Plateau of over half a million acres like the palm of his hand and time and time again this knowledge has proven invaluable in times of emergency. Once Davis was caught in snow so deep that his saddle and packhorses played out. Battling a raging blizzard, Davis

managed to reach safety. Between alternate feedings of grain it took a crew of men three days to work the horses a distance of three miles through the snowdrifts. Only Davis' powerful physique saved himself and stock

Albert C. Bramhall came from the Lassen to the Modoc Forest in 1911 and was successively in charge of the Happy Camp, Big Valley and North Warners ranger districts during more than two decades. Never too strong physically, Bramhall, nevertheless, worked long hours. Once in his early years of service he was "lost" with his team and cart in the backcountry. The executive assistant sent out by Supervisor Durbin in a Model T Ford as a one-man rescue party, found Bramhall all alone fighting a 10,000-acre fire threatening to come into the national forest from outside timberlands. The two men joined forces, checked the flames by backfiring, but were somewhat singed and had part of their equipment burned up in the process. Bramhall died near Hemet, California several years ago.

Fred J. Dooley, already with years of service behind him, joined the Modoc force as a lumberman in the spring of 1929. Incidental to his timber sale work, he nursed the young plantations of the Sugar Hill section, and had a decided influence on timber sale administration in that area. Conscientious to a fault, he usually came out ahead in frequent lively bouts with the current operators who learned to regard his opinion with utmost respect. Dooley retired from the Service several years ago and is living in Alturas.

The guard force of the Modoc Forest through the years has produced many loyal, interesting characters. Barring the class of technical foresters now filling responsible positions throughout the nation, such as Darrell M. Traugh, Assistant Regional Forester of the California Region, the Modoc organization produced many men of the professional guard type. There was big Roscoe McCrary who served for many years as protective assistant, intermittently stepping into the role of scaler and improvement foreman; Otto Klosterman, who for years used to domicile himself on Timber Mt. as an unpaid watcher for pre-season fires; the Berg Bros., John and Charles, pioneer lookout-firemen of the lava beds section and to whom eating and sleeping were merely incidental to smoke-chasing activities. Then there was Harry B. (Bugs) Warner, killed while on duty on the Devil's Garden district, who would fight fire till he dropped from sheer exhaustion. Don M. Davison, later State game warden and now serving in the Navy overseas, worked for years as protective assistant. For years the hard-hitting fireman team of Joe Callaghan and Reuel Methvin risked life and limb in speeding to fires on the Happy Camp district, and with whom few other officers rode if they could avoid it. Callaghan is now a naval officer and Methvin a woods boss for the McCloud interests. Curtis Higgins, afterwards a district ranger, swallowed so much smoke on Modoc fires that he became a semi-invalid. Pages could be covered in listing the unsung guard heroes of Modoc fires.

One of the most colorful of the old guard force of the Modoc was Eli Dale. Born in Missouri in 1852, he came West while still a lad and worked in bad Indian country as a teamster, miner and cowpuncher. At one time he was a wealthy man by virtue of ownership of rich mining claims, which he lost, by being too trustful of others. Six foot four in his stocking feet, and without an ounce of superfluous flesh, he tipped the scales at 240 pounds. On horseback, he was a living image of the pictures of the Confederate leader, General Robert E. Lee.

Eli Dale commenced work for the Forest Service in 1908 as a day laborer and manned Modoc's first primary lookout on Happy Camp Mountain in 1912. He

occupied this station each season until 1927. Dale rarely missed the telltale smoke of a fire starting within his wide range of vision by day, nor its 'blaze by night and never considered his job completed until the fires he reported were controlled. Often he guided fire-fighting action by his detailed reports. He had an uncanny knack of locating fires in the flat country dominated by his lookout. Once District Ranger Snelling told him he must be mistaken in the location of several lightning fires, since Snelling did not believe the storm had hit in that vicinity. Stung to the quick, the old man shouted into his telephone, "What the H-- d' ya think Uncle Sam's keeping me up here for?"

Old "Eli" was usually right - both in his exact location of a fire and just what the fire's behavior would be under existing weather conditions in that particular spot. No amount of persuasion could induce the old lookoutman to leave his post of duty during the fire season, even in his last year of duty when he had the definite premonition he would never return. If there was any doubt as to the reported location of a fire, Dale was wont to make a trip by horse and buckboard in the fall, to prove himself - right or wrong. Although hundreds of hospitable doors were open to loveable, independent Eli Dale, he died alone in a Marysville hospital on February 7, 1928.

Ranger Districts

On the start, ranger district boundaries on the old reserve were quite vague. Roughly speaking, under Hogue's administration Chris Rachford handled all the east side of the Warner Range; Vernon (Buck) Bonner, the western slopes of the northern half; Ernest Payne handled most of the south end, and Tim Poore, with Bill Lunsford and Frank Layton, the Modoc Reserve withdrawal.

With more field help available, Rachford on becoming supervisor organized definite ranger administrative units. By 1910 there were ten ranger districts on the Modoc Forest and late that year with the inclusion of the Haydenhill unit, still another was added. In 1911 there were five separate ranger districts on the Warner Mts. division. That fall the number in that section was reduced to four, in 1913 to three and in 1913 to two, with Cedar Pass as the dividing line.

The Devil's Garden district was composed of two separate ranger districts up to 1915 when they were consolidated under one ranger. Up to 1916, the large western timbered plateau was split into two districts, East, and West Happy Camp, respectively. When the northern lava beds region was added to the Modoc it was first administered as a part of the Happy Camp district, involving in all almost 900,000 acres. It was later made a separate and distinct ranger unit under the name of the Doublehead District.

Although an experiment started last year has combined the North Warners, South Warners and Devil's Garden into one administrative unit under a district ranger stationed at Cedarville and an assistant district ranger stationed at Alturas, administrative thinking is still much in terms of the district units established before the 1920's and lasting through an approximate quarter century of administration. While Appendix B at the end of this history includes only areas actually within legally established national forest boundaries, some 200,000 acres of outside private timberlands adjacent to the Happy Camp and Big Valley districts have for many years been under Forest Service fire protection through cooperative arrangements with their owners.

Chapter VI - Resource Management

Water

Modoc County, in common with the rest of California, can produce few crops without extensive irrigation. A great deal of the arable soil of the valleys is deep and rich - and waterless. On a considerable area of these dry lands rye is grown and cut for hay, one and one-half tons per acre being considered a good crop. Grain crops - barley and wheat - sown in the fall, in some sections bring good returns. Hay, including alfalfa, and all other crops, need irrigation.

The Warner Mountain Range is one of the best-watered areas of the State. The water from the short streams of the east slopes provide irrigation for Surprise Valley, which is also, blessed with some fine artesian flows throughout its length. In some few fortunate spots in this valley there are also considerable areas of sub-irrigated land on which no surface irrigation is needed to produce bumper crops. Incidentally, besides livestock and livestock products, Surprise Valley produces considerable alfalfa seed, which, because of its high quality, commands a premium in the nation's markets.

Streams are longer and larger on the west side of the Warner Range. From the approximate northern one-third of the range they flow into Goose Lake; from the balance of the range the waters flow into Pit River. Because of a surplus of water, most of South Fork Valley was a swamp until a large drainage canal paralleling Pit River was dug in the 1890' s. In some spring seasons, high temperatures melting the snows of the Warners, transform South Fork Valley into an immense lake and occasionally part of the city of Alturas is inundated also. Once in about every eight or ten years, rowboats are pulled along several blocks of the main street of the town.

Modoc waters, through the medium of Pit River, furnish a lot of irrigation for the lands in the warmer climate of the Sacramento Valley. Antedating the present Central Valley Project by a couple of decades was a statewide water plan, which came nearly being adopted. This Marshall Plan, as it was called, involved immense reservoirs in a sort of stair step system flooding Jess Valley, Pit River Valley, Round Valley, Big Valley and Fall River Valley, the water dropping down from one to the other in the order named.

In contrast to the well-watered Warner Range, a large part of the western section of the Modoc Forest is waterless, and is the Happy Camp district one can easily be twenty miles from the nearest natural water. Much of the irrigation water comes from constructed reservoirs filled by the spring runoff. In the large lava bed section there is no runoff whatever, the falling water or melting snow being absorbed in the spongy pumice soil. As an anomaly, perhaps, the northwest section of the Forest butts up against the big Federal Klamath Irrigation Project, located in California and Oregon for which water is drawn from Clear Lake and Lost River, which are in turn fed by the not inconsiderable flows of Willow and Boles Creeks traversing the northern sector of the Devil's Garden district.

Timber

One of the first needs of the Modoc settlers was timber, and sawn boards were soon available to construct the frame buildings which quickly followed the dirt or puncheon-floored log cabins of the first settlers. Here and there throughout the

Modoc National Forest can be found a few rusty scraps of metal scattered among fair-sized second growth timber, the only evidence remaining of small sawmills of early days. Until well into the second decade of the 20th century, till lumber manufactured in the Modoc country was absorbed by local markets.

Modoc County was constructed by John Bucher at Lake City in 1867; pine logs being hauled from the nearby canyon to the crude water-powered plant. About two years later H. O. Jopp built a small mill on Bidwell Creek to furnish lumber for the Fort Bidwell area. As late as 1931, worn ox shoes would be picked up on the site of this old mill. To cater to the needs of Surprise Valley pioneers, the Hickerson family also built a sawmill in the late sixties. The biggest demand for lumber came from the town of Cedarville where a considerable settlement was springing up around the Cressler and Bonner trading post, so Jim Torrey and a man named Metzker built a sawmill in nearby Cedar Pass, also in the late sixties. This mill was the most elaborate of them all and when running full capacity cut 4,000 board feet of lumber per day.

Joseph Brothers established a sawmill on Joseph Creek, 12 miles north of the present town of Alturas, in 1872. The Salisbury family located their mill on Canyon Creek above the south end of Pit River Valley a few years later, and the Ballard family located a mill in the same general vicinity about the same time. Other sawmills established before the forest reserve withdrawal included the Patterson mill in the high country above Eagleville, the Omar Cantall mill above Jess Valley and the Fandango Mill on the edge of the valley of that name. J. J. Potter of Lookout was one of the early sawmill operators near Big Valley and W. E. Conklin operated on the divide between Pit River and Round Valleys. At the time of the establishment of the forest reserve, there were around a dozen small sawmills operating in what is now the Modoc National Forest.

By 1912 most of the accessible private timber in the Warner Mountains was cut out. That section had never been popular with land locators operating under the Timber and Stone Act of 1878. The great expanse of level timbered lands in the western section of Modoc county, however, was a sinecure for entrymen under the Timber and stone Act and a large proportion of the county's adult population filed on timber claims under that law, most of the claims to be simultaneously sold to large timberland holding concerns.

The bulk of the timber patents were issued in the period between 1695 and 1905, and account to a large extent for the almost 400,000 acres intermingled private lands later included within the Modoc Forest. The "badger Springs Township" (T. 44N., R. 8 E., P. D. M.) was saved to public ownership in the nick of time by the forest reserve withdrawal. In order to be able to demand an official survey of his hitherto unsurveyed area, a land manipulator had it privately surveyed and four rude, one-room cabins built around each point where a section corner would be located, so that squatter rights could be claimed for each 160 acres. This particular scheme was defeated but plenty of other rather shady deals went through. Roving vaqueros were liberally supplied with Whisky in the frontier town of Alturas and for a small cash consideration induced to sign filing papers for land, which immediately passed into the hands of the timberland barons.

The first Government timber sale on the Modoc Forest was made to the late S. T. Ballard, operating with several others under the name of the Ash Creek Lumber Company. This was followed shortly afterwards by sales of stumpage to Omar Cantrall and the Fandango Lumber Company. The last-named was the biggest

sawmill outfit in the Modoc area prior to the coming of railroad transportation, with A. G. Luhme as its general manager. The firm went broke and, their current timber sale for 15 million board feet was cancelled in 1912. Their rather considerable sawmill plant burned down some years later.

The first large timber sale operation to come to the Modoc Forest was the Crane Creek Lumber Company, successful bidder in 1926 for 194 million board feet of timber in the Fandango Logging Unit. Amid a flock of bidders the Government accepted the high bid of this firm, which was 44.69 per M feet for ponderosa pine and 50 to 62 cents per 11 feet for other species. This concern, logging also in their own intermingled private timber, has had a story history, going through several major forest and plant fires. They have logged in the north Warners since 1927 and are now bringing logs across Goose Lake from the Devil's Garden section to their plant at the town of Willow Ranch.

Almost simultaneously with the Crane Creek Lumber Company came the Pickering Lumber Company, owner of a veritable empire of timber in the Happy Camp district. This company invested close to two million dollars in Modoc County, the largest part of which was represented by a huge modern sawmill plant at Alturas. This plant has never turned a wheel and the machinery for its operation rusted on railroad cars for years. The untimely death in 1929 of W. R. Pickering, the moving spirit and head of the concern, added to the national depression, put the whole venture on the rocks. At the time of writing, plans are almost perfected for the operation of the plant on a smaller scale than originally intended.

In 1920, the Likely Lumber Company, organized mainly by E. L. Booth and A. E. Banks, started operations in the southern part of the Modoc Forest. The venture was taken over in 1926 by Keith L. and Harry L. Edgerton who are still operating in Government timber with a medium-sized plant in the town of Adin. Edgerton Brothers have been eminently successful in their lumbering business on the Modoc forest, and proven that a small Sawmill need not be what is usually termed a "haywire outfit."

In the late twenties the McCloud Lumber Company established their plant and town of Whitehorse in the extreme southwestern part of Modoc county and commenced cutting operations in their own timber. They were followed shortly afterwards by the Long Bell Lumber Company, similarly operating in the Glass Mt. section, hauling logs to their sawmill town of Tennant over their logging railroad and bringing water for their logging camp use in tank cars in the same manner. Shaw-Dertram located in that same general locality in the early thirties, and the Ralph Smith Lumber Company at Canby some years later. These big outfits, while cutting over their own lands, also operate in Government timber on intermingled public lands.

Starting with the railroad development of the latter twenties, the Modoc became decidedly what is termed a "timber sale forest", justifying the statement made by Assistant Regional Forester T. D. Woodbury in May 1926 when he said, "Watch the Modoc from now on." In 1933 there were 250 persons employed on a seasonal basis in wood manufacturing in Modoc county with an annual payroll of 77,500; in 1939 the number of people so employed had grown to 900 and the annual payroll was \$900,000.

Up to 1934 a total of 52,250 acres of timberland had been cut over in Modoc county; by the end of 1938 the total had reached 136,750 acres, and 259,750 acres by December 31, 1943. Up to early 1945, a total of 125,000 acres of national

forest timberland had been cut over, 37,500 acres of which was well stocked with new growth, and 87,500 acres poorly stocked. This latter included 2,500 acres cut over under free use and under the farmers and settlers sale regulation. Because of the proximity of valley areas these small sales at cost to settlers were numerous on the Modoc. There was an average annual number of 162 of these sales for fuel, posts and farm timbers during the years 1916 to 1930. Better transportation facilities increased the use of oil fuels and sawmill by-products so that during the period 1931 to 1944 the number of settler's sales dropped to an average of 71 per year. From 250 to 450 free use permits for relatively small individual amounts of dead and decadent timber have been issued annually during the years of administration.

Taking into consideration timber cut under sawtimber sales, farmers and settler's sales permits, plus loss by fire and insect infestation, local officers estimated that in 1945 approximately 3,193,000 MBF of merchant-able timber remained on public lands within the Modoc National Forest. (For estimated stand of timber and volume cut, see Appendix C)

The Modoc's timber stand is pretty well inventoried. B. C. Goldsmith, with district rangers, carried on timber cruising over limited areas during the years 1909 to 1912. Two undergraduate foresters spent the summer of 1911 on rather extensive timber reconnaissance in the area from Sugar Hill to Jess Valley. In the winter of 1913-14 a crew of rangers, practically snowbound for several months, carried on timber reconnaissance on snowshoes in the "Badger Township" and vicinity. The men carried their personal belongings, camp equipment and grub on large hand sleds and camped in the old cabins existing in that section. It was tough going but the work of these men brought out the fact that there was much more public timber in that locality than at first supposed. The previous summer Ranger George A. Kresge, working alone, had made a surprisingly accurate estimate of the merchantable timber stand in the timbered lava beds.

Organized crews under Oscar M. Evans commended large-scale cruising operations just after the close of World War I and Ben O. Hughes ran a large crew one season in the Egg Lake section. Many professional foresters started their active forestry careers on the Modoc Forest as members of the crews working under Evan's direction. By the early thirties practically every township of timber on the Modoc had been covered by intensive surveys.

The menace of the Western pine bark beetle pushed the cutting of Modoc County ahead of the planned harvesting, which good forest management practices dictated. Of all the forested areas in California, Modoc County suffered most from this scourge. The infestation, first noticed as an endemic outbreak about 1915, started sweeping through the timber stands as a decided epidemic outbreak a few years later. Entomologists found that in 1918 in one section in the North Warners, 10.67 percent, or 1,129,000 board feet of merchantable timber had been killed and that the infestation was rapidly spreading. Private timberland owners in California and Oregon joined with the Forest Service, Bureau of Entomology and Indian Service in war on the pest. S. R. Black, in the fall of 1921, carried on cooperative control operations with the Weyerhaeuser Lumber Company on the north end of the Devil's Garden district and the epidemic was fairly well checked in that section.

Although the valuable timber in the North Warners was severely threatened, the epidemic later settled mainly in the Happy Camp district. An insect control

experiment station was established at Buck Creek Station with H. L. Persons in charge and a great deal was learned about the habits of the bugs. Infestation fluctuated from year to year. In 1921, on two sample plots of 320 acres each on the Happy Camp district, 6,280 and 7,706 board feet of ponderosa pine timber, respectively was destroyed. Entomologist F. P. Keen in 1927, making an extensive examination of 432,000 acres on the same district, checked 38,000 merchantable trees, which had been killed.

Up to the end of 1934 the Pickering Lumber Company, Bureau of Entomology and the Forest Service, working cooperatively, had jointly expended \$300,000 in insect control operations in the Modoc area. Control work in 1928 cost \$4.09 per tree, or \$4.79 per M board feet. Some utilization of infested timber was made. The Pickering people installed a portable sawmill in the area of heaviest infestation and practically every stick of lumber used in the construction of their big plant at Alturas came from "bug" trees.

The Western pine bark beetle (*Dendroctonus breivionis*) proved itself a hardy creature. In the winter-of 1931-32 cooperative control operations were being carried on in big scale operations in western Modoc County. That winter the bugs with their larvae apparently "froze" when temperatures of more than thirty below hit the zone of operations, but later thawed out, to account for the killing of 106 million board feet of timber in 1934 in the same general area.

The 1921 loss of Modoc county timber from insects was estimated at 21 million board feet and that of 1927 at approximately 184 million board feet. After 1934 the losses lessened, the situation being greatly helped by current lumbering operations salvaging infested timber simultaneously with carrying on control work. All in all, the Modoc county loss of merchantable timber, Government and private, was approximately twenty percent of the entire stand in the two decades during which the worst epidemic outbreaks occurred.

Mention has been previously made of the contribution of the native juniper tree to the local economic life. Forest officers estimated that the equivalent of almost fourteen million board feet of Western juniper had been cut on national forest lands up to 1927. The lessening supply of red cedar in the South led pencil manufacturers in 1911, 1912, and 1913 to investigate the possibilities of the Modoc Juniper as a substitute. Paper pencils for a few years invaded the field and it was not till 1921 that the California Cedar Products Company got into action, at Alturas. That fall the company shipped the first carload of juniper pencil bolts to their main plant at Stockton.

Later the local plant cut the product into blocks 8 inches by 2-5/8 inches and sometimes into actual pencil slats one-quarter inch thick, paraffining the ends of the blocks or slats to prevent checking. The raw product was brought into the local processing plant in the form of 8-foot sections of the main tree trunk. The knotty nature of the species made the waste extremely heavy and the Government required the operator to also work limbs and tops into fuel wood of which there was generally a shortage in the local market. The peak of this operation was reached in 1922 when the firm cut and processed 546 cords of pencil wood and cut 112 cords of incidental fuel wood. The operation was abandoned entirely a few years later when "the market was materially influenced by public demand for metal pencils of the Scrip to type.

There are considerable possibilities of post-war use of juniper timber as well as that of its companion woodland tree, mountain mahogany. The adamant wood

of the latter has been under especial investigation for smoking pipe material and similar uses requiring special hardwood stock.

Range

Grazing has always been a leading use of the Modoc National Forest. The luxuriant grasses and vast expanses of browse not only built respectable fortunes for many pioneer residents but through the years has also fattened almost countless thousands of transient cattle and sheep from other sections.

Range disputes, sometimes breaking out into shooting affrays, mark the pages of Modoc history. Stockmen of the Modoc country have always been decidedly independent, their way of thinking influenced by the free and unrestricted use of the range by their pioneer forbearers. One petition protesting against a reduction of permitted cattle on an overgrazed range, presented to the Forest Service in the early twenties, opened with the phraseology, "We, the pioneers and sons of pioneers."

The Cowman's War of 1877, fought along the California-Oregon line was a bloody affair. Although several cow outfits were involved, the principals were the Laws Brothers and the Calvin Brothers of the big Valley section. A total of seven men met death in the fighting, which lasted for several weeks. The country was literally "wild and woolly" and the spectacle of rival cowpunchers "shooting it out" in the back country did not perhaps unduly excite the local authorities. But when one old man was cruelly murdered with a hatchet in the cabin in which he was doing his camp chores, Sheriff Joe Marks, heading a settlers posse, took a hand, settling the matter on the ground. Since the ringleaders were all dead, Marks turned coroner, his posse serving as the jury.

Although gunplay has occasionally marked range disputes between individuals from time to time through the years, the last big affair taking on the aspects of an old time range war took place in 1914. Oregon sheepmen demanded a driveway through the mountain lands of the Modoc and other national forests further to the south to provide access to Sacramento Valley marketing points. Only a strip a quarter-mile wide was originally asked for, but anyone knowing the habits of sheep and sheepmen realized that as the tens of thousands of sheep passed through, the quarter-mile strip would be magnified many times over-either that or the sheep would starve en route.

To save being overrun with hordes of transient sheep, Modoc cowmen and sheepmen stood shoulder to shoulder against Oregon flock masters. A mass meeting of opposing forces was held at Lakeview, Oregon, presided over by Jesse W. Nelson. Later, Chief Forester Henry S. Graves came from Washington to act as arbitrator in the dispute. The request of the Oregon sheepmen was denied and they were forced to ship their stock to California markets by rail facilities already provided by the narrow gauge N. C. & O. Railway. This was the last concerted attempt in California to break down the Forest Service policy of local range use and revert to the good old days of free sheep pasturage for nomad and permanent flock master alike.

Domestic horses gone wild and the inbred offspring of such, locally known as "fuzz tails", have always been something of a problem on the Modoc ranges. After the first bad winters had taught the settlers a lesson, cattle were generally winter-fed and sheep moved to more snow-free ranges. Not so with horses. There were so many of these on the ranges that in 1889 Surprise Valley stockmen

organized roundups and many were gathered: and killed. That year one Oregon drover took out one thousand head from the Surprise Valley area alone.

Among the first grazing projects initiated by Supervisor Chris Rachford was the rounding up of wild, unbranded horses on the Devil's Garden district where special corrals for the purpose were built. Almost 600 head of unbranded horses were gathered in that section by rangers and local permittees. They were rounded up on horseback in the fall and chased on skis during the deep winter snows. On one of these winter rodeos Ranger Jim Poore suffered snow blindness and his companions had considerable difficulty getting him in to civilization. Poore eventually got the best of the deal, however, acquiring for himself a team of beautiful, cream-colored wild horses, perfectly matched to the last hair, which he afterwards gentled, broke and drove. Wild horses in that section were pretty well cleaned up by 1911.

Ten years later astray horses had again - become a range pest and in 1921 Supervisor Bill Durbin and local officers worked out cooperative plans with the Alturas Stock Association to rid the range of their presence. A total of 155 head were gathered from toe range that fall by rangers and hired riders. This work was pushed during the next five years. On each un-permitted or stray horse gathered there was imposed a riding, pasturing and advertising charge, plus the Government trespass charge for the estimated time the animal was on the range. The project, handled under the State astray laws, paid its way, with a residue going into the Modoc county treasure as the law provided.

The peak of this stray horse campaign was in 1925 when several public auctions of the animals took place. At one of these auctions, 120 old horses, 26 yearlings and 16 sucking colts were sold, these besides the animals claimed and redeemed by their owners. The bulk of the horses went for chicken feed at from one to two cents per pound. A total of around 1,200 head of horses were removed from the range during the campaign, besides a considerable number of horses voluntarily sold as surplus stock by local cowmen permittees. While being held in pasture during the advertising period, these stray horses had a considerable attraction for transient vaqueros and Indian youths. For weeks on end, sometimes with another officer, Ranger DeCamp never left the animals without guard for a single moment.

The condition of the ranges at the time of forest reserve withdrawal has already been recounted. With the elimination of nomadic sheepmen and regulated use of the range, feed conditions greatly improved, although the surrounding public domain to which regulated grazing use did not apply continued to be badly punished, both by local stockmen and transient users. As late as 1911, Modoc County collected license fees on 42,186 sheep and their lambs.

For several years Supervisor Rachford kept painstaking figures on livestock weights and found that the average net weight of permitted steers on the Modoc Forest increased from 480 pounds in 1905 to 553 pounds in 1911, figures being based on 2,000 to 4,000 head checked annually. In 1912 lambs marketed from national forest ranges averaged fifteen pounds heavier than those from outside areas. Rachford also inaugurated the burro or camping out system of handling sheep on the Modoc ranges and in 1912 only 7 out of 59 permittees were trailing their sheep to central bedding grounds each night.

In the fall of 1911, District Ranger Roy Snelling, referring to some 100,000 acres of range in the Warner Mts., wrote, "The stock were all in good condition this

year and there could have been 500 head more (cattle) grazed in this district, as there is plenty feed left in the hills which will not be used." In 1909, including stock grazed on equivalent range exchanged for general use of private lands within the Forest boundary, 26,076 cattle and horses were pastured under formal grazing permit, and 51,250 sheep. In 1913, after range assignments had steadied down on the Hayden Hill Addition, 35,812 cattle and horses and 73,428 sheep were similarly permitted to graze.

The protected Modoc ranges were giving a good account of themselves but some fear of overstocking must have crept into the consciousness of the early-day administrators whom we find beginning to inventory range resources. Rachford and his rangers started somewhat crude grazing reconnaissance in 1909 " and covered some 400,000 acres within the next four years. Intensive range reconnaissance work was started by Fred D. Douthitt in the South Warners in 1916. A crew of field assistants under L. H. Steffen followed and aided by Grazing Examiner L. S. Smith, the entire Warners area was covered in this intensive work by the end of the following year.

Intensive grazing surveys, handled on a project basis, were completed on the entire big Valley district during the next couple of years, and the entire Forest by fairly accurate extensive examination. The resultant range reconnaissance and appraisal report, made in 1922, gave the estimated total carrying capacity of 1,461,600 acres as 42,600 head of cattle for an average of 6 months and 87,250 sheep for an average of 4 months. Although Modoc Forest ranges were never stocked to nearly their full rated carrying capacity, the 1922 range appraisal figures were later proven to be much too high - through good years and bad.

Meanwhile, the 323,000-acre Lava Beds section had been added to the Modoc National Forest. In the winter of 1921, Ranger Harry Garrison wired the supervisor that he was unable to cope with Irish herders crowding 125,000 sheep on to the ranges of that section. Ranger John C. Davis was sent out to take charge of the situation. Davis had herded sheep himself all over that territory and knew most of the so-called "wild Irishmen" by their front names and all of them at least by local reputation. Inside of a couple of weeks he had the sheep, which had no right to be there -approximately half of them -moved off the Forest. Altho it was expected, no serious trouble developed. Neither Davis nor Garrison carried firearms, and Davis was intimate enough with the different sheepmen to distinguish between the regular users of the range and the tramp flock masters.

Ranger Garrison, since deceased, used to tell some interesting tales of this sheep exodus. One particularly pugnacious Irishman threatened dire consequences if the rangers tried to remove his sheep. Davis jokingly led him to believe that another Irish flock master, a bitter enemy and of whom the belligerent one was very much afraid, would be along with his sheep shortly, would deliberately mix the two bands and precipitate a fight. The defiant Irishman moved out.

Late one blustery day the two rangers stopped at the shack of a nester who cordially invited them to put up for the night. There was no other camp water for miles, the hay in the nester's barn looked invitingly soft for beds, so the two men unsaddled. The old gentleman, voluble and hospitable, was anything but a clean cook and neat housekeeper. However, it was only when they saw him mixing the biscuit dough for supper that the rangers suddenly remembered a previous obligation, to be at another point some distance off. While engaged in his culinary activities, the old man was laughing, talking and chewing tobacco at the same

time and a distinct stream of tobacco juice was dripping from his chin whiskers into the biscuit batter. The two officers re-saddled and made a somewhat cheerless camp elsewhere.

As transportation facilities increased many of the smaller cowmen turned to dairying instead of beef production and threw up their range permits. The increasing use of auto transportation also had the effect of automatically eliminating some of the small permittees grazing a few head of horses. The number of permittees using national forest range, therefore, somewhat dwindled among the smaller farmer-stockmen class. The Modoc country, however, has always been noted for big cow outfits, which stayed in the straight beef production business through good years and bad.

The largest permittee on the Warner fits. division was the J. L. Flournoy and Company whose grazing permit for 800 head of cattle did not vary in 30 years of use. One of the biggest outfits of early days was the W. B. Whittemore Company, which was absorbed by the Carr interests in 1911. This later became the Klamath Lake, Land and Livestock Company, the largest grazing permittee on the Forest, consistently running around 3,000 head of cattle for decades on national forest ranges. Walter Dean Duke, nationally - known cowman and reputedly the hero of Owen "Wister's Virginian," for years grazed several thousand head of cattle under temporary permit. Several large permittees with ranch headquarters in the Fall River Valley and Big Valley sections individually grazed hundreds of head of cattle on inter- mingled national forest and private land ranges.

The Dorris Brothers interest grazed around 2,000 head of cattle year after year on the Devil's Garden district. The Fred H. Huffman cattle concern known variously through the years at Potter-Huffman, Bixby-Huffman and the 51 Ranch, represented the consolidation of several large cow outfits and held a grazing permit year after year for as many as 3,000 head of cattle. W. C. Dalton, head of the Klamath Lake, Land and Livestock Company, Pressley Dorris and Fred H. Huffman were known for years as "The Big Three" in northern California cowland.

W. L. Leland, who had made a fortune mining in Alaska in 1912 bought out the extensive Triangle brand holdings in the Devil's Garden country. Under the supervision of Leland and his younger partner, O. G. Meyers, money flowed like water as the firm of Leland and Meyers built roads, telephone lines, elaborate buildings, and reservoirs in the development of the adobe flats and swampy meadows of that section. Leland, who even had a mail route and the post office of Triangle established, had in mind some philanthropic colonization scheme, but the soil and climate were ill fitted for farming. Roads, rural telephone lines and several small artificial lakes in otherwise waterless country are monuments to this venture of 30 years ago.

One of the real big men in the cattle business in Modoc County for many years has been Frank McArthur, owner of the big Corporation Ranch holdings in South Fork Valley. McArthur, always a close cooperator of the Forest Service, was also of a decided philanthropic turn of mind and in maintaining his own considerable fortune, made a lot of money for others. His purse strings ever loosened, McArthur was frequently the silent partner in some of the bigger cattle grazing ventures.

For a quarter of a century the biggest sheepman using the Modoc National Forest ranges was Raymond Anchordoguy of Red Bluff. In 1916, he bought out the

sheep and Happy Camp land holdings of S. D. Wilcox and added to the same by the purchase of several other areas containing living water in an otherwise dry country. Renting large areas of timberland from private owners, he turned these lands over to the Forest Service in exchange for range to accommodate his stock and to take care of the natural drift of cattle from adjoining ranges. For years he ran as many as 7,000 head of grown sheep.

Anchordoguy furnished the Forest Service with domestic water for 20 years; he went to extremes in practicing rotated grazing; he pioneered the method of using portable troughs and hauling water 15 to 20 miles by truck thereby utilizing areas of dry range and incidentally in the process, watering many hundreds of deer annually. When railroad development came, he entirely abandoned trailing his sheep from home ranch to range and from range to market, shipping them by rail instead. He was at times even an enigma to his cowman neighbors, since his herders were forbidden to follow the time-honored sheepman's custom of dogging cattle away from the watering places, which he himself owned. Although due to exchange of private cutover timber-lands, Anchordoguy's grazing business has fallen on evil days, the range which he used for so many years is probably in better condition than any other area of its size on the Modoc Forest.

Early in 1935, the badly abused public domain was placed under the administration of the Grazing Service of the Department of the Interior. Modoc county was particularly interested, not only because of the large area of public domain lands within her own borders but also because many of the local stockmen ranged stock in Nevada part of the year, where vast areas of public domain existed. The Grazing Service formally took over at probably the biggest mass meeting of stockmen ever held in northern California, at which they were assured of the privileges they had enjoyed for years. Jesse Parman, old time stockman and covered wagon pioneer, who had grazed both cattle and sheep on national forest range since its withdrawal, apparently epitomized the feelings of the smaller stockmen present when he declared, "If this new Government outfit treats us all as fair and square as the Forest Service has, none of us will have any kick coming."

The Grazing Service did a good job and soon had the alien and nomadic sheepmen moved off the ranges. However, requirements for grazing privileges were not so strict as those imposed by the Forest Service and the ownership of water and range headquarters such as corrals and camps were recognized as prerequisites for a grazing permit, as well as prior use and ownership of dependent, improved ranch property. Moreover, applications for grazing permits were reviewed and passed upon by a board of local stockmen rather than by the Government officials themselves. The Grazing Service administration, therefore, greatly appealed to the range users.

As will be noted from Appendix D at the close of this work, the number of stock using national forest range had shrunk from the peak of 1921 to 1925. Frankly, the range was overstocked. The overstocking during the decade in which the World War I years were centered; a succession of years of drought; timber reproduction usurping some of the range areas; large scale logging operations, and also too much optimism perhaps in the grazing capacity of the range in earlier years, were all factors demanding a rather drastic reduction in permitted stock numbers. In later years, however, the worst setback to the range in general was encroachment of cheat grass. Noticeable only in small patches in the early twenties, fifteen years later this short, fine-stemmed, shallow-rooted, matted grass

growth had spread alarmingly over the country, in places choking the native bunch grass out entirely. As evidence of the serious range situation, the rated official carrying capacity of Government lands in the Modoc Forest had dropped from the previously quoted 1922 figures of 255,600 animal months for cattle and 349,000 animal months for sheep, to the revised estimates of 1940 which gave 103,700 animal months for cattle and 126,000 animal months for sheep.

The Forest Service stuck to its policy of timber production being the priority aim of the national forests and its belief that it was better to grow one fat steer or one fat lamb than two thin ones. Some of the stockmen did not agree with this. Appeals made to individual permittees in the early thirties resulted in some voluntary reduction in permitted stock numbers, but not nearly enough. In 1935, a straight cut of ten percent in permitted numbers was made on the entire Warners Mountains range. This was followed by still further reductions. Local stockmen, themselves realizing that something must be done to restore their ranges, had through the years been quite cooperative in the matter of shortening seasons; salting; herding; eliminating extra horseflesh; water development, and in other range development matters, in everything, in fact, except in reducing the numbers of stock allowed them on the range.

The new Grazing Service, administering much lower-lying range lands and for shorter periods, could perhaps justify heavier stocking and moreover, had no companion problem of timber propagation. In 1938, the Modoc county board of supervisors passed a resolution asking that the administration of grazing on the Modoc National Forest be turned over to the Grazing Service of the Department of the Interior. This was sent to the President along with a petition signed by some 200 stockmen, praying for the same action. While the individual stockmen signing the petition represented ownership of approximately 65,000 head of cattle and 35,000 sheep, not over a third of them were national forest grazing permittees.

The Forest Service stood by its guns. There must be no more overstocking of public ranges inside the national forest. And the Modoc ranges may, indeed, come back just as they once did forty years ago. Then too, some method may be developed to control or eliminate the widespread cheat grass. Meanwhile, whether it be a two months winter grazing permit for a band of sheep in the non-timbered lava beds, or a six months permit for cattle on the Devil's Garden Plateau, there is no lack of local range demand. Probably the core of the whole range situation is that the fertile valleys produce more than sufficient feed to winter the number of stock that the wild lands can pasture in the summer, the answer being that the farmlands must assume a greater burden of livestock pasturage than they have in the past.

Recreation

The Modoc National Forest is too far off the beaten track to draw the large volume of recreation travel common to national forests closer to centers of population. As against the thousands of summer homes located in the Sierra Nevada Forests and those of Southern California, there is only half a dozen of this type of special use permit on the Modoc. In normal times, however, some recreationists passing over the Yellowstone Cutoff or Three Flags Highway, pause for a few days camping in the Modoc area.

Generally speaking, the recreational resources of the Forest are enjoyed by local valley residents seeking a brief respite in the cooler mountain sections. The

exception is during the one-month open deer season when around ten thousand hunters, ninety percent of whom come from distant places, crowd into the Modoc Forest, nearly all parts of which are easily accessible to automobile travel.

The Modoc Forest has much to offer the outdoor recreationist. There are approximately 220 miles of good fishing streams and the small lakes of the region, covering around 3,300 acres, provide fair angling also. There is no more scenic mountain area in the State, than the Warner Mountains. The South Warners Wild Area of 75,000 acres, from which man-made improvements are banned, holds an appeal for those who prefer trail travel and camping in the rough. This area includes rugged canyons, small glacial lakes, rushing streams and high mountain peaks, on the north slopes of which the snow rarely melts.

Clear Lake, Mill Creek Falls and Blue Lake, in the South Warners, would be Meccas for many thousands of tourists were they closer to populated centers. Blue Lake is over a mile long, one-half mile wide, its waters azure, deep and cold. Forests of ponderosa pine and White fir extend to the water's edge on very gentle slopes. Although easily accessible during the summer by fair dirt auto roads, it is entirely undeveloped at present, since until very recently every foot of the usable shore line was in private ownership. These bordering lands were available for purchase for years. Regional and local officers and public spirited organizations tried in vain to affect its transfer to public ownership through State or county medium. It was only recently acquired by the Forest Service through a tripartite land exchange transaction and un-doubtedly some day will become one of California's most popular recreation areas.

Camping is allowed nearly everywhere in the Modoc forest and many recreationist locate their camps at some favored spot along one of the streams, or in the pine timber. No improved public camps or picnic grounds at all existed until 1921 when cooperation with Goose Lake Valley ranchers produced the Plum Valley picnic grounds near Davis Creek. It was eight years later that the next improved public campgrounds were established at Rush Creek and Canby Bridge. The first improved camp grounds were crude affairs, involving only a few tables and ice can stoves roughly set in concrete, all work being done by staff men, rangers and cooperators. Just prior to and during the Civilian Conservation Corps Program, a considerable number of up-to-date, improved public camps were established at different points all over the Forest. For the benefit of deer hunters, camps including only an ice can stove and table and excluding the more extensive water and sanitary installations, were established here and there, often in dry camp locations.

Considerable recreational development was carried on in the Lava Beds National Monument by ranger and guard labor and by project crews between 1925 and 1934. Besides surface roads and trails, long trails through caves, supplemented by ladders, bridges and guard rails, were built underground, the work being done entirely by gasoline lantern light. Scores of signs marking places of natural or historical interest were put in place throughout the Monument and a large public campground constructed at Indian Well, the administrative headquarters.

So much of the Modoc Forest is level and criss-crossed by roads, that more direction signs are found there than in most forested areas. These are of the modern metallic type and a replacement of former homemade wooden road and trail signs. The first direction signs were made by Ranger George A. Kresge in 1911 and 1912 with small split sections of saplings nailed on tress, the lettering

being carved with a timber scribe. These first signs mostly pointed the location of and direction to water. They were followed by board signs, which were painted by the district rangers during the winter months and posted during the field season.

The only improved winter sports area on the Forest is that located near the summit of Cedar Pass and used by local residents from the towns of Alturas and Cedarville.

Fish and Wildlife

The Modoc territory had just been called a "Sportman's Paradise." Its first inhabitants, the Indians, who judged the merits of any country by its supply of fish and game, used a term for what is now Modoc County, which interpreted, meant "The Smiles of God."

The Modoc tribe of Indians gathered annually at Clear Lake to catch and dry fish, mainly a species of large edible mullet, locally known as Lost River suckers. These fish are very tasty, reach a size of 12 to 18 inches, and are yet speared by the thousands in their spring run through the Indian Reservation just north of the California-Oregon line. This fish will respond to no known bait or lure.

A large species of trout, resembling the rainbow, is native to the waters of Goose Lake and during the approximate period between 1890 and 1920 they could not only be taken in the lake itself, but were caught in the streams of the North Warners up which they ran by the thousands to spawn in the spring. ⁱⁱ few of the species survived the years of drought and some have been caught recently in the now more ample waters of Goose Lake, The creeks centering around Jess Valley and the higher streams of the Warners provide season-long fishing and spring fishing is good in all the streams of the Forest. Streams and lakes are restocked annually by the State Division of Fish and Game, working cooperatively with the Forest Service and local sportsmen. A sample pre-war year planting was that of 1934 when 1,366,000 two-inch fingerlings-rainbow, Eastern Brook and Loch Leven - were planted in the Modoc waters.

Forest officers, acting for the Division of Fish and Game, in 1921 were exceedingly chary about allowing Loch Leven trout to be planted in the somewhat muddy waters of Big Sage Lake, a large reservoir which had been constructed on the Devil's Garden district the previous year. Local sportsmen, finally securing official consent, planted several thousand fingerlings. In the fall of 1926 Loch Leven trout were caught in the deepest part of this reservoir weighing as much as five pounds. This artificial lake now provides bass fishing also.

Many sections of Pit River are well stocked with black bass. So far as is known there was only one small planting of the, stream with this species, and that more or less accidental. Dr. E. F. Auble of Alturas had recommended this species for Modoc waters and in 1909 two cans of fingerlings were delivered at his home. The doctor being absent his small son and another boy merely dumped the fish in the river in the center of the city of Alturas.

In the spring when the water is cold and their meat firm and tasty, catfish are caught by the thousands all along the reaches of Pit River. In comparatively recent years, this prolific fish has been introduced into many of the irrigation reservoirs where trout will not thrive.

Bird life is exceedingly plentiful on the Modoc Forest. Leading ornithologists in the twenties were responsible for the statement that there was a wider range of

bird life in Goose Lake Valley and the adjacent Warner Range than in any area of similar size in the State.

Advancing civilization has taken a wide toll of upland game birds. Early settlers in Surprise Valley have asserted that prairie chickens of the same general species as those of the Western plains were found in great numbers there in the latter 1860's, but no member of this species has been seen for many years.

Doves are plentiful and valley quail are probably the next most numerous among the upland game birds. The latter have been planted freely in the valley areas in recent years. Chinese pheasants, first introduced about 20 years ago, are beginning to provide good shooting. Forest officers estimated that in 1940 there were not over 700 of the large mountain quail left on the entire Forest and less than 500 of the formerly plentiful blue grouse. Both of this species are found mainly in the Warner Range.

The vast sagebrush expanses of the Modoc territory are the natural home of the sage-hen or sage grouse. Until the early twenties, parts of the Forest were heavily stocked with this splendid game bird. When flushed the bird flies low and being of large size is easy to shoot. The combination of automobile hunters and repeating shotguns were too much for them and they were almost exterminated before protective legislation was enacted which banned their shooting entirely for several years. The sage-hen are coming back. In a recent summer approximately 1,000 birds concealed themselves on the P. C. Weber Ranch near Alturas and they have been seen in much greater numbers in their old haunts in the Devil's Garden country.

During the season of 1920, the writer has witnessed a line of Sunday sage-hen hunters on Big Sage Flat north of Alturas, several miles in length. Just ahead of the hunters thousands of birds rose in low-winged flight, many of them to fall before the nimrods' guns. Another 1920 incident illustrates the large numbers of these birds in that same general section.

Assistant Regional Forester T. D. Woodbury and the writer domiciled themselves one Saturday evening at a haying camp on Bottle Creek Meadows, sitting out after supper for a hunt along a nearby juniper ridge. Flushing a bunch of birds, each secured his limit of four and was back in camp within half an hour. After breakfast the following morning the performance was repeated, back in camp within an hour, each hunter with his four-bird limit.

Due to more sensible legal bag limits and the work of Federal, State and private game conservation agencies, ducks and geese are again becoming plentiful on the Modoc Forest. Tule Lake, with its bird refuge and public shooting grounds is one of the greatest resting and feeding places for migratory birds in the West. In scores of other places in the Modoc region big honker geese and several species of ducks remain for months during the fall and early winter. Up to the end of the first decade of the century, some Modoc county residents could shoot ducks and geese literally from their back doorsteps, and the liberal bag limit of that time was quite feasible within an hour's horse and buggy drive of the city of Alturas.

Unless one had seen the Clear Lake Bird Refuge of twenty years ago he could hardly believe such a place existed. Nesting grounds for thousands of shore birds, one had to walk very carefully to avoid trampling eggs, and young birds yet incapable of flight, which were found everywhere. Canada geese, ducks, cormorants, pelicans, seagulls and other species of waterfowl made this their

meeting headquarters, a peculiar feature being that each species of bird had its own particular stretch of territory along the shore, or as a Federal bird refuge in 1923, and the Biological Survey, aided by the Forest Service, constructed miles of fence to keep grazing sheep from trampling nests and eggs. A large part of this immense bird population has since moved to the later created Tule Lake Bird Refuge.

The quest for pelts of pine marten and beaver brought the first white men to the Modoc Forest area. The pine marten is gone but a number of beaver adapted themselves to encroaching civilization. In 1931, a colony of about 30 of these animals were maintaining themselves on Lassen Creek within sight and hearing of the Willow Ranch box factory. At the same time a group of about eight were domiciled on the north fork of Pit River within 50 yards of the Southern Pacific railroad track. Another large colony on Willow Creek on the north part of the Devil's Garden were playing havoc with a rancher's irrigation system. That year several were trapped by the local game warden and district ranger for transplanting, but died en route to the new locations. Transplanting operations in 1936 and 1937 were more successful and resulted in new thriving colonies in Emerson Canyon and Pine Creek Basin where the engineering works of the beavers have proven of actual aid to farmers. Local officers estimate a total of 150 beaver on the Forest at present.

There are not over a dozen black and brown bear resident on the Modoc and even less than that number of mountain lion. The Forest's population of wild cat and the larger Canada lynx, formerly plentiful, is estimated now at less than 1,000. Some skins of these animals taken by local trappers have measured over six feet from top to tip. A new fur-bearer, the muskrat, introduced into waters in the northwestern section of the Modoc a few years ago, has spread widely and multiplied greatly so that the rangers estimate a present population of around 6,000. W. C. Dalton, owner of the big well-watered Steele swamp Ranch, jocularly remarked recently that it would pay him to quit the cattle business and lease the ranch to muskrat trappers.

The large timber wolves reported by early Modoc settlers have been extinct for many years. Not so the universal coyote, leading furbearer and predator of the region, which pretty well holds its own in spite of concerted efforts of Federal, State and private trappers. For years Modoc county paid a bounty of \$1.00 to \$2.50 on the scalp of this animal, and sheepmen yet contribute liberally to a coyote control fund. In 1912, one sheep permittee lost 160 head of grown sheep out of a band of 2,000 from coyote depredations and along about the same time losses of five percent of entire herds were not at all uncommon. The coyote was considerably reduced in numbers for a few years when in 1915 the worst outbreak of rabies in the history of the State occurred in Northeastern California and neighboring Nevada.

Rabid coyotes, losing all fear of men, boldly entered farmers' yards and were even killed on the streets of the towns. A ranger's small son was badly clawed and bitten on the porch of his own home in the town of Adin by a rabid wild cat. Coyotes ran amuck among herds transmitting the disease to domestic stock. Children were escorted to school by armed guards. A campaign conducted by the State Board of Health, Public Health Service and Forest Service resulted in the extermination of thousands of coyotes by shooting; trapping and poisoning, besides those, which died, from the disease itself. A strict quarantine was imposed, and all domestic dogs and cats found loose were killed also.

During this rabies campaign, 18 expert hunters and trappers were employed for months. Two men lost their lives from accidental shooting; one Big Valley stockman died from rabies, and scores of persons bitten by rabid coyotes or domestic animals were rushed to Berkeley, California to be given the curative Pasteur treatment. The outbreak was responsible for the loss of thousands of head of cattle, horses and sheep.

Both General John C. Fremont and Lindsay Applegate mention the abundance of game animal seen in 1846 on their route through what is now the Modoc National Forest. Applegate particularly mentions the bighorn sheep of the Lava Beds section and the antelope herds. The bighorn has been long extinct in the Modoc country. In 1915 the prong horned antelope were in a fair way to follow suit, when J. Hall McAllister of the California Academy of Sciences, through the Forest Service, initiated action for their preservation. There was an approximate 50 head total on and adjacent to the Modoc Forest at that time. The animal made a wonderful response to protection measures, plus a certain amount of winter feeding of hay. In 1931 there was an approximate total of 500 animals. In 1937 they had been seen on every ranger district of the Modoc except the Happy Camp and numbered approximately 1,250 head. Their numbers in 1943 were estimated at 1,900, and limited hunting of the animal had been allowed for several years.

Several bands of prong-horned antelope winter annually near Alturas, none too popular with local ranchers will charge right into a fence going through or under it rather than over, sometimes injuring themselves in the process. An Alturas farmer returning home one night in a light truck let his companion out to open the gate to his ranch, a bunch of alarmed antelope, confused by the lights of the car, charged into and over it. One frightened antelope actually sprang into the cab of the pickup, seriously injuring the young rancher in his struggles to get out again.

In official circles the Modoc National Forest is credited with having fifty percent of the resident, Rocky Mountain mule deer in California. (The State Chamber of Commerce, in its Blue Book for 1942, says that Modoc County has ninety percent of the Nation's "mule tail" deer - the term "mule tail" being the local misnomer for species.)

The Rocky Mountain mule deer not only furnished the local Indian tribes with much of their food and clothing, but was a decided asset to the Modoc pioneers as well. Before legal restrictions were placed on their hunting, they were killed by the thousands mainly for their hides, the hams being about the only part of the meat saved for use. Rangers John and George Kresge as boys in their late teens killed 1,200 of the legally unprotected deer in the winter's hunting near Egg Lake.

Oregon hide hunters made a regular business of hunting in the Modoc country and even after the deer were placed under legal protection continued operations. The last gang of these Oregon hunter's was broken up in 1912 by Game Warden George W. Courtright and Forest Rangers George Kresge, Jim Poore and Ernest Payne. They were a bad lot and had vowed that they would shoot Game Warden Courtright on sight. Courtright, getting the lead on his ranger companions, strode into their camp alone, reminded them of their boast, and coolly announced, "Well, here I am." The gang was arrested by Courtright and the rangers without gunplay.

The largest game animal of which hunting is allowed in California, bucks are sometimes killed which weigh, rough-dressed, almost 300 pounds and 175-pound bucks are quite common. Their wide, spreading antlers are a trophy much sought after by hunters. With increasing hunting and the ravages of an unknown disease,

which swept through the herds, in 1925 it really looked as though these big mule deer must go the way of the bighorn. That year forest officers estimated the total number of mule deer and a few black tail on the Modoc Forest to be around 6,000.

State game official backed the rather drastic protective legislation recommended by the Forest Service and by 1927 the mule deer range had been incorporated into a separate district; a one-buck limit imposed in that district; the hunting tag system put into effect, and the shooting of forked-horns - the yearling deer of this species - prohibited.

The deer population of the Forest rapidly increased. By 1934 there was an estimated number of 1,000 Columbian black-tailed deer and 24,300 mule deer; in 1935 the estimated total was 27,100 deer. At the end of 1943 the rangers accounted for 34,000 Rocky Mt. mule deer on the Forest and only 100 of the smaller black tail species. Estimates of deer numbers on the Modoc Forest are no mere guess. Since 1937, rangers, game wardens and wild life specialists have carried on extensive deer studies, including detailed winter counts when the deer yard up, or concentrate, within limited areas.

After exhaustive surveys during the winter of 1943-44, the deer count embraced 35,000 head, 20,000 of which were permanent residents and 15,000 members of the migrating herds. These migrating deer, starting immediately after the first fall storms, travel south and southwest from the Oregon ranges to winter in the more open Modoc country, chiefly in the non-timbered lava beds and Clear Lake hills. In winters of deep snow they invade valley points, sometimes feeding on hay with the cattle in the farmers' fields. At times thousands of deer can be seen from the main traveled highways. During the winter 1937-38 local officers estimated that 15,000 deer wintered in the Dry Lake section of the Lava Beds, with a density of one deer to two acres. Sometimes in the deep snow years there is insufficient feed to adequately winter the deer. During March and April of 1937 an estimated 2,000 yearling deer died from starvation on the Devils Garden and Doublehead districts.

A considerable number of deer are killed annually by automobiles on the main highways and occasionally an animal runs afoul of a train. In spite of all known precautions, many deer commit unintentional suicide each year by crashing into railroad right of way fences breaking their necks on impact or dying in the struggle to free themselves when their legs become entangled in the wires.

Approximately 70 deer met death in this manner in the Perez area in 1937. With increase in deer population there was a corresponding increase in the number of

hunters. Prior to the days of automobile travel not over 500 outside hunters came to the Modoc Forest annually. By 1925 the number had increased to 5,000, and by 1935 to an estimated 10,000. The hunter kill in 1925 was estimated at 1,000; in 1934 the bucks bagged totaled 2,490. In 1940 the recorded take of hunters was in excess of 3,000 bucks. In spite of wartime conditions, there were approximately 8,000 deer hunters on the Modoc Forest in 1943 and a somewhat greater number in 1944, with a tag in the latter year of approximately the same proportions as 1940.

Deer management became a leading administrative problem on the Modoc. The deer were not only seriously encroaching on the range of domestic stock but were eating themselves out of house and home as well. In some portions of the Forest, over-grazed range conditions were due as much to browsing deer as to

overstocking by cattle or sheep. On sheep ranges near the Oregon line the native bitterbrush was stripped clean by the migrating herds.

In 1935 Supervisor Beeson recommended the killing of does and stated that - "The over-population (deer) situation is becoming acute." His successor, Supervisor Elliott made the same recommendations, as did Supervisor Barron in 1944. Undoubtedly, State legislation will soon legalize the killing of does which, in the opinion of the Modoc officers, is the only sensible way of reducing the surplus deer population of the ranges.

Albino (white) mule deer are occasionally seen on the Modoc Forest, but the reported existence of black deer was somewhat doubted until one was killed in the North Warners in 1934. The buck weighed 145 pounds, field dressed, and was a perfect specimen of a 4-point, Rocky Mountain mule deer except that he was entirely black in color from nose to tail tip. One of the same kind, dressing 180 pounds, was taken in the same locality the following year.

Most of the smaller game animals and fur-bearers common to western mountain and plateau regions are found on the Modoc Forest. At times jackrabbits become so numerous that communal drives are undertaken to reduce their menace to range and crops. Every so often some disease wipes out thousands of these animals while again they are so plentiful that in migrating to new feeding grounds in winter the snow on sagebrush flats is covered with a moving mass of rabbits.

No one can quite account for the sudden increase in numbers in the 1920's of the waddling, bristled porcupine. Not only did these animals nip the buds of hand planted pines, but played havoc with natural reproduction by girdling the young trees. Eradication operations were started in 1930 and carried on for several years thereafter. To check on the number taken by individual hunters by shooting and poisoning they were required to cut off the snouts and string them on wire.

Andrew Hupe, a young college graduate employed for years on the Modoc in this work by the Biological Survey, and given the sobriquet of "Porcupine Andy," made a detailed study of the habits of these animals and bagged several hundred each month. Supervisor Mel Barron instituted a porcupine killing contest among the Modoc force. The opposing teams in 1944 jointly killed 410 animals in spare hours of hunting during the year, and incidentally, 46 coyotes.

Besides the Federal Clear Lake Bird Refuge, there are four State game refuges on the Modoc Forest. The Pine Creek Refuge, 1C, 26,670 acres, and the Badger Refuge, 1B, 77,940 acres, were created by the State Legislature in 1917; the Lava Beds Refuge, 1N, 35,840 acres, in 1927; and the Haydenhill Refuge, 1S, in 1929. The last-named covers 6,400 acres inside the national forest and approximately 25,000 acres outside.

Minerals

Modoc is not much of a mining country. The entire mineral output for the county was valued at less than \$100,000 in 1942. Like many sections of the West, however, it has had its occasional flurries of mining excitement.

There is the usual run of "lost mine" stories, the most famous of which is that of the Dick Holden mine. Dick Holden, Indian, used to disappear periodically in the ruggedest sections of the South Warners to return well supplied with rich gold ore. He was always able to throw pursuers off his track. Prospectors and even forest rangers searched for years for his claim without success. Then he was hung

for murdering a fellow tribesman, his secret died with him. Since Holden was suspected of having been in the general vicinity when a big steal of rich gold ore took place in Nevada, his mine may have been a cache rather than a natural deposit.

During the last years of the 19th century a sheepherder picked up a heavy rock somewhere along the west slope of the South Warners. It lay in his pack for months forgotten but later assayed, was found to be almost half pure gold. Although an Alturas banker grubstaked the herder for two years to find the source of this gold no more if it was ever found. There is a fairly well authenticated story of an Oregon emigrant having picked up a similar piece of rock on the Devil's Garden in the fifties but no mineral deposits of any amount were ever discovered in that section. Some sixty years ago a member of the Courtright family, while seeking refuge from a snowstorm, assertedly found a mass of very rich copper ore in a crater in the lava beds, but later search by himself and other prospectors discovered no mineral ore among the lava flows. The lone Hess Mine on Adin Mountain, located in 1903, produced one thousand dollars a week in gold during 1912 and has since been a steady producer in a small way. Stone Coal Valley nearby owes its name to deposits of stone, which will burn, but the material has never proven of any commercial value. Northeast of Stone Coal Valley low grade gold ore exists but of such little value that wildcat operations were abandoned years ago.

Just within and adjoining the southern extremity of the Modoc Forest, in Lassen County, is the old ghost-mining town of Haydenhill from which considerable gold has been taken. Several hundred acres are literally honeycombed with tunnels and some small operations were yet being carried on in immediate pre-war years. So far the gold has been found only in rich pockets but some holders of claims in the region believe that a mother lode of rich ore will eventually be discovered.

During the latter sixties, Daniel Hoag, a roving, silent backwoodsman, brought some exceptionally rich samples of rich gold ore into Fort Bidwell. Hoag was killed by Indians shortly after and the source of the rich rock was never learned. In 1905 it was deduced that the samples came from the vicinity of Fandango Peak and Yellow Mountain where Peter Lorenzen and Wm. D. Broadhus located some promising claims in what they named the Hoag Mining District. N. E. Guyot, veteran of the Colorado Cripple Creek gold rush, came in a few years later and joining with other mining promoters, engaged in a boosting campaign. The result was that in 1912 Modoc County experienced its only gold rush.

The town of New Pine Creek to the west of the Warners and Fort Bidwell on the east were both jammed to the doors, with gold seekers sleeping in barns and out-houses. The roads leading to these towns were lined with prospectors and their burros and inside of a few months thousands of acres of the national forest lying along the Oregon state line were plastered with mining claims. The post-office and town of Highgrade was established under special use permit on national forest land and a forest ranger assigned to permanent duty in the district. This assignee was Ernest D. Payne, big, rawboned and heavily mustached, who moved among the miners with a large badge and heavy six-shooter prominently displayed, that perhaps being the reason there was little of the lawlessness common to such camps.

The rush did not last long. The promoters of the district promised values of \$10,000 to \$20,000 to the ton. Samples of surface ore did actually assay \$200 to

the ton and underground ore, \$500. However, there was no great area of general deposits and most claims showed only a hopeful color. State Mineralogist W. H. Storms investigated and broadcast a warning that the Highgrade District was not by any means a second Cripple Creek as advertised, most of the claims were soon abandoned and the heavy winter snows broke down the vacated buildings of the town of Highgrade. A relatively small amount of gold has been taken from the few-patented claims of the region since.

With the discovery in the twenties of some low-grade silver ore in the vicinity of Thombs Creek, there was some local excitement. The many claims filed upon, however, were soon abandoned when they showed little more than a mere trace of silver.

Chapter VII - Progress In Forest Development

Land Claims, Forest Homesteads and Special Use Uses

Transient sheep on public domain lands were constantly crowding the withdrawn areas, and one of the first jobs of the early day Modoc rangers was the establishment and marking of national forest boundary. Supervisor Rachford and his rangers spent every possible day on this activity, which could be spared from grazing and timber work. The work was very much complicated because of jogs, panhandles and gunshot areas, since in the original forest reserve withdrawals every effort seems to have been made to throw private lands outside the Forest boundaries.

By the middle of 1911, approximately 250 miles had been well marked and that fall 175 miles were surveyed and posted. The cloth notices furnished during the first decade of the Modoc's administration were torn down by chipmunks almost as fast as they were posted, and until metal signs were made available, boundary posting was a constantly recurring job.

Timberland locators were still going strong when the Modoc Forest was created. The first forest officer, working with General Land Office agents, battled many claims, which were obviously illegal. A good many were cancelled. One such involved a mythical sea cook, who's given address was a cheap San Francisco lodging house. Federal investigators proved that no such man existed. Several other "dummy" claims were cancelled. By 1911 there were still 14 unsettled Timber and Stone claims on the Forest the last one being allowed to pass to patent in 1913.

Every effort was made to protect the rights of homesteaders whose claims lay within the Forest. Some homesteads were automatically cancelled by abandonment or relinquishment on the part of the claimant and were afterwards withdrawn for ranger station sites. At the end of 1925 there was a total of 28 reserve site withdrawals, 18 of which were in actual use for ranger or guard headquarters, for pastures.

When the Doublehead District was added to the Modoc in 1920, the Forest Service fell heir to 34 homestead claims located among the Clear Lake hills. They were without exception dry, second-rate farmlands, but since most of the homesteaders were honestly trying to wrest a livelihood from these sub marginal lands, most of them were allowed to go to patent without protest. Almost without exception these homesteads have since been abandoned and reverted to their original sagebrush cover. During the second decade of the century, adherents of a religious sect located many homesteads in that section. Living much to themselves, they struggled along for several years, and then suddenly abandoned their places just before the area was included within the national forest. Their simple explanation as they moved out their scant possessions of livestock and household goods was that "God had called them" to another location.

The Forest Homestead Law of June 11, 1906 brought many home seekers to the Modoc Forest, mainly between the years 1910 and 1916. The greatest concentration of these homesteads was along the south and west shores of Goose Lake. Obliging forest officers laid out many of these claims, most of 160 acres each, in legal subdivisions of 2 1/2 to 10 acres to secure the best possible

agricultural land for the claimants. The written legal description of one of these, occupying a canyon bottom, almost filled two typewritten pages, single space.

Forest homesteads were as much of a failure on the Modoc Forest as elsewhere. Some few homesteaders of modest means built irrigation reservoirs but climatic conditions and lack of ready markets were against them, even though the soil on some of the homesteads was deep and rich nearly all were abandoned after patent was issued, often being sold to large stockmen for pasture purposes.

Forest officers did their best to dissuade land hungry applicants from filing on lands, which they knew could never be developed into paying farms. It was only in after years that the disillusioned homesteader bitterly resented not having followed the ranger's advice and bought a smaller piece of developed farm land in proven valley areas.

The total number of applications for land under the Act of June 11, 1906 on the Modoc Forest was 204. Ninety-four of these embraced lands, which were thrown open to settlement and entry and filed upon. The area of such homesteads taken up was 11,962 acres. Ninety percent of the area later became sub marginal farms, pasture land or even open range.

Land classification carried on as a special project under orders of the Secretary of Agriculture was completed on the Modoc in 1918 by J. O. Morrow, F. H. Smith, Percy L. Day, and S. N. Stoner of the district office, and B. C. Goldsmith of the local force. This special examination resulted in no more vacant agricultural land being found in the Warner Division. A total of 1,275 acres was listed as chiefly valuable for agriculture in the rest of the Forest and thrown open to settlement and entry. Only a small portion of it was ever filed upon, however, and the balance finally reverted to national forest land status.

Most of the Modoc homesteaders honestly believed that their homesteads could eventually be developed into productive farms and not having the recreational use pressure of the national forests further south, there were few attempts to secure lands under the forest homestead law for purposes other than agricultural. Moves were made, however, to secure title to lands under the mining laws.

One Los Angeles promoter planned to acquire 'virtual proprietorship of beautiful Lily Lake in the North Warners by filing mining claims on lands surrounding it, land abandoned years before by prospectors. Forest officers, learning of his plan, defeated the scheme by withdrawing the entire area as a public service site for which purpose and it is heavily used by local recreationists at the present time.

An area above Lake City furnished an excellent grade of good gravel and easily worked rock for public road and culvert construction. A local resident, envisioning a fine, steady income from the sale of the material to road-building agencies, tried to file a mining claim on the area. He told some friends of his intentions and the information reached county and Forest Service officials. When he went to make his filing he found that a special use permit had been issued for the area to the county board of supervisors a matter of only hours before.

Where it would not affect general public interests unfavorably Modoc officers were always willing to issue a special use permit for land to an applicant to try his hand a cultivation of a small area of bottomland or for improved pasture purposes. While special use permits on Modoc land include railroad rights of way, water projects, telephone lines, sawmill developments and community buildings; most

of them are connected with the dominant industry, livestock grazing. The total number of special use permits in effect on the Modoc in 1910 was 350 In 1915 they number 1910 In 1925 there were 244 special use permits and 262 in 1940 Special use permits in 1940 covered 56,123 acres, and 320 miles distance in rights of way.

Prior to 1920 special use permits were issued to harvest wild hay on the lush meadows of the northern Devil's Garden District, now so badly overgrazed by a combination of climatic conditions, wild deer and domestic stock. During the thirties the Southern Pacific Railway held a Special use permit which involved leveling a small mountain in the lava beds section, when the company used the lava cinders of which it was composed for ballasting many miles of main trackage and sidings.

Land Exchange

The land exchange Act of March 20, 1922 was a big thing for Modoc administration because of the volume of intermingled private lands within the Forest. One of the first exchanges consummated was that with Antone Avilla, a sheepman of the Big Valley District. While the Government got much the best of the deal and some badly needed range water, the stockman was well satisfied since it consolidated his ranch holdings on Willow Creek.

By the end of 1928 the Modoc Forest had acquired 2,040 acres through land exchange transactions. By June 30, 1936, a total of 4,598 acres of private land had passed into Government ownership and in the exchange process, 1,052 acres of Government land into private ownership. Two years later the cumulative land exchange total was still 1,052 acres from Government to private and 5,058 acres from private to Government. By the end of 1940 the Government had acquired 44,843 acres under the Land Exchange Law,

Most of the area acquired was cutover private timberland secured on a tri-partite exchange basis, financed by money paid for the Modoc's own stumpage, mostly from the Crane Creek Lumber Company operation.

Besides Blue Lake, Cave Lake - twin sister to Lily Lake - was acquired by the Government. Negotiations are now underway for the acquisition of Clear Lake in the South Warners. When this is secured, all natural lakes in the Forest will be in public ownership. With the consummation of exchanges of cutover lands now being negotiated, almost 125,000 acres will have passed from private to public ownership on the Modoc Forest.

Road and Trail

Because it embraces so much level terrain, road construction is comparatively easy on the Modoc Forest. Short stub wagon roads had been built by the pioneers into most of the timbered canyons of the Warners as well as long stretches across the plateau section of the Forest, so that little road or trail construction was carried on by the early-day rangers.

On June 30, 1910, the total distance of Government roads. on the Modoc was 12 miles, and 16 miles of Government trails. By 1915, the Forest Service had built 48 miles of road and 78 miles of trail, and by 1920, a total of 156 miles of road and 81 miles of trails. Practically all of the trail mileage was in the Warner Mts. Division.

Between 1917 and 1922, a five-man mobile crew of forest officers worked in spring and fall and made passable for safe summer auto travel an extensive mileage of old roads in the western section of the Forest. There was no drainage or grading work done to speak of, the work consisting chiefly of removing windfalls and rocks and taking out high centers. This crew covered an average of one mile of road per day. Supervisor Bill Durbin and his staff actively participated in the work. The era of modern road building started on the Modoc in 1924. Since 1930 motor rebuilding equipment has been available and a small special crew employed on season long construction and maintenance.

A diary entry of a Modoc officer in January 1925 records Highway 299 between Hot Creek and Alturas as being almost impassable on account of mud and snow. Modern construction and drainage has since made even Modoc's un-surfaced roads travelable almost the year around. In June 1945 a party of automobiles traveled over some forty miles of turnpike dirt roads in the southern part of the Happy Camp District, on which over five inches of rain had fallen within a few days previously, without the slightest difficulty.

Completed logging operations in the Western Modoc leave a veritable spider web of logging railroad grades. Many of these are cleaned out and used as roads and firebreaks for fire control in that hazardous fire area.

Every primary lookout station on the Modoc Forest is accessible by automobile. Twenty years ago the Warner Mts. could be crossed in only two places by wheeled vehicles - Cedar Pass and Fandango Pass. Today the average automobile can traverse this rugged range east and west in five different localities. The approximate 2,000 miles of Federal, State and county roads on the Modoc at present make it the most accessible national forest in the California Region.

Communication Systems

By 1910 the Modoc rangers had built 40 miles of telephone line to supplement the existing farmers' lines with their antiquated telephone instruments, mainly of the mail order house variety. That year and the following same 40 miles of additional line was built across the Devil's Garden in cooperation with Fred H. Huffman.

Supervisor Bill Durbin had little use for any physically fit male employee who could not get out and do a hard day's manual labor. He organized winter crews of rangers on telephone line construction and similar work, with whom he and members of his staff took turns about working. In the summer of 1921, Durbin and his executive assistant alternated in working with a crew of guards who constructed 50 miles of free telephone line on the Happy Camp District. Every half hour a member of the crew checked with the primary lookout by portable telephone to insure that the skies were clear of smoke.

Regional Telephone Engineer Fred H. Hafley spent many months working over old farmers' telephone systems in a cooperative endeavor to improve badly needed rural and fire protection communication. Telephone communication with approximately half of Forest's area passed through these farmers lines for almost twenty years. Following the work started by Durbin, Supervisor George Lyons and his staff members took turn about during the winter of 1924-25 working with a ranger crew in constructing a telephone line from Alturas to Adin, which relieved the situation. By June 30 of 1925 the Forest 'Service telephone system on the Modoc covered 246 miles.

During the next ten years the system was expanded so that the Modoc Forest was virtually independent of commercial and farmers' lines and connected up with the systems of the Shasta and Lassen Forests in California and with the Fremont Forest in Oregon. In recent years, radio communication has greatly supplemented that of telephone.

Structural Improvements

Between 1908 and 1910 frame houses and barns were built by ranger labor at Buck Creek and Logan Springs Station and a 3-room log house at Boles Springs. Both the Boles Springs and Logan Springs Ranger Stations were entirely abandoned as administrative headquarters by 1916. In 1910-11 a 3-room frame house and barn were built at the Pit River Ranger Station. With ranger labor the house cost \$444 and the barn 200. The latter, however, had a large storage capacity for hay grown on the station site and afforded sleeping quarters for visiting forest officers.

Local forest officers were somewhat astounded when Supervisor Chris Rachford in 1913 projected a modern 4-room house with bath at Buck Creek, which was built by Ranger Chase D. Meissner. This was the start of the modern ranger headquarters plant, completed in 1938. Buck Creek became one of the leading district ranger headquarters in California.

Forest officers worked from 1910 to 1925 endeavoring to create a ranger station plant out of an abandoned homestead at the mouth of North Deep Creek Canyon. It was finally abandoned in favor of the town of Cedarville, Crowder Flat started as an 8x10 rough lumber shack built in 1919, followed by a 4-room log and frame house in 1923 and a modern dwelling in 1940. The Patterson Ranger Station 2-room house was built in 1920; the Malin Ranger Station house and barn in 1923, and the Willow Creek Station guard dwelling on the Big Valley District in 1931.

The CCC program in 1933 ushered in the building era which resulted by 1941 in modern ranger station plants at Buck Creek, Cedarville, Canby and Adin, besides a central warehouse, suppression crew barracks and dwellings in the city of Alturas.

Happy Camp Mountain was used as a riding lookout from 1908 to 1910. In 1911 a rough shelter was built and a permanent lookout installed. The wide scope of view from this lone mountain embraces an immense area located in six counties in two states. In 1915 a standard 12'x 12' standard lookout was constructed on top of the peak, no tower being necessary. The next primary lookout built and manned was Haydenhill, in 1922.

Blue Mountain, with a 20-foot steel tower and Sugar Hill, with a 30-foot steel tower, were built in 1931. Luther and Perry Clark, ingenuous woodsmen-guards, felled a large pine tree so that it lodged solidly into a still larger one. They made a crude ladder up the leaning tree and constructed a guyed platform where the trees joined some fifty feet above the ground. This swaying observation post served safely for years on Sugar Hill before the modern plant was built.

Timber flit. Lookout was built in 1934; Manzanita Mt. in 1935; Fox Mt. in 1937, and Boyd Hill in 1938. Manzanita and Timber Mt. both served as primary lookout points for years before standard lookout plants were constructed on their summits, For several years in the early twenties, Miss Rosa Turner, daughter of a nearby rancher, rendered excellent service as the lookout man on Timber Mt. This young

girl kept a saddled horse always close and on several occasions controlled small nearby fires or held them in check till help arrived.

As would be natural in a livestock country, there are many miles of range fences on the Modoc. In places where the country is level or gently sloping the national forest boundary is fenced for miles. As a winter improvement project a drift fence extending from Goose Lake to Crowder Flat, separating sheep and cattle ranges, was built by rangers in the winter of 1926. Livestock guards on roads are a common feature on the Modoc, which standardized Region-wide plans for this type of improvement.

Changes in land ownership and methods of livestock management, abandoned homesteads and special use pastures have, through the years, left many miles of barb wire fence high and dry, as it were. This wire, a menace to range stock, was often given to small farmers in return for its removal; at other times rangers salvaged it themselves for use on projects where funds were short.

One local cowman, noted for his violent temper and quarrel some disposition threatened to shoot any forest officer removing menacing wire from Government lands adjoining his own. During a couple of calls at the ranch house no matter how threatening the cowman became the local ranger kept on smiling and explaining the rules and regulations in the case. Three forest officers started early one morning to take down the wire, utterly ignoring the rancher sitting in full view on the porch of his house nursing his temper and a high-powered rifle. The rancher's wife had a disposition exactly opposite to that of her husband and at noon invited the three officers down to the house for dinner. Grudgingly hospitable at first, the husband thawed out and wound up by actually helping the rangers complete the job of removing the wire.

Water Development

Water for domestic and range use has ever been a vexing problem on the Modoc Forest. Spring development was started by the first rangers, but over hundreds of square miles of territory no living water existed. In the 1890's Big Valley stockmen plugged lava crevices in large flats on the Happy Camp District, thereby creating Upper and Lower Mud Lakes.

The first stock-watering reservoirs of any magnitude were built by plow, scraper, mule and ranger labor in 1916. On some of them Supervisor Bill Durbin drove a team while his wife cooked for him and one or two ranger assistants. As heavier dirt-moving equipment became available, the work was done with tractors. Usually dirt dams were thrown across some spring run to impound a few acre-feet of water. On the Doublehead District in 1932 a considerable number of low levees were thrown up to prevent spring water from leaking away through cracks in the lava formation.

In much of the Modoc Forest there is little or no runoff. In 1915, Henry E. Turner, a June 11th homesteader, started digging for water on his place at the foot of Timber Mt. After he had reached a depth of 200 feet by the pick, shovel and windlass method, his hired help refused to have anything to do with such a dangerous project. Turner organized his husky daughters into a surface crew, dug a hundred feet further and struck a good flow of water. Because of this permanent water, the Turner Place became quite a landmark and the post office of that section. Turner also proved that water existed in that section if one went deep enough.

Funds being made available, in 1919 Supervisor Durbin arranged with a firm of well drillers to commence water development operations in the western part of the forest. At 78 feet a good flow of water was struck at Brown's spring but gave out a few months later, the drillers having merely struck a lava crevice filled with water. The drilling was moved to a new location but the drilling apparatus lost 100 feet down, and the operation abandoned. Bill Durbin practically slept with the outfit while it was drilling at Badger Springs where a never failing flow of water was secured at 399 feet. J. S. Potter afterwards brought in good deep wells west of the Badger Well, and John Davis at his Doublehead Ranch.

At the Happy Camp Ranger Station, the Forest Service had hauled water for domestic use for 25 years. In 1934, with CCC funds and labor, a more than adequate water supply was brought in by piping from a hidden spring less than a mile up the mountainside, at a total cost of only \$1,792. (See Appendix E "for list of existing improvements.)

Reforestation

The Modoc force did a considerable amount of tree planting between 1908 and 1912 with little success. The devastating Sugar Hill Fire of 1929 made reforestation somewhat of a necessity in that section. In the spring of 1930 the Modoc was furnished 75,000 Jeffrey pine seedlings, but no money to do the job. With L. L. Smith as leader, F. J. Dooley, R. S. Bacon, L. R. DeCamp, Wm. S. Brown, J. C. Davis, O. L. Barnum, A. W. Bramhall and D. M. Davison set out an average of almost 500 trees per day, per man. In 1945 this is one of the finest pine plantations in California, the approximate 85 percent of trees which survived averaging twenty feet in height and ten inches in diameter, breast high.

Tree planting was pushed on the Modoc after 1930, concentrated mainly in the Sugar Hill and Fandango section which provided the best possible timber growing sites" The 1932 planting burned out well as did the projects of several later years. Porcupines were decidedly partial to the succulent tips of the young, fast-growing seedlings. Control of this bristly rodent was carried on successfully, but little could be done with the browsing deer, which also found the tips of the seedlings very much to their taste.

Planting cost ran from \$13 to \$16 per acre and the Modoc soon had a heavy investment in thrifty young pine forests. To protect the seedlings from fire, a firebreak 8 miles long and 100 to 300 feet wide was constructed on the north slope of Sugar Hill in 1934. A drift fence to guard them against trampling livestock occupied the middle of the firebreak. As of June 30, 1944 the Modoc had 7,732 acres of hand planted trees, with an investment value of \$132,703. In the oldest plantations, thinning and pruning operations are already being carried on.

Cooperation

Cooperative range betterment has always been an outstanding factor in the Modoc Forest administration. For 30 years the Alturas livestock Association and the Modoc Wool Growers Associations both tied into national organizations, have worked cooperatively with forest officers. The Surprise Valley Stock Association, organized in 1914 and the Big Valley Stock Association, started in 1915, have been equally active. There have been several other livestock associations, representing the communities in which their members live. The Advisory Board of each association has currently met with forest officers and

some of them have even been asked by the latter at times to review official action on grazing applications from their respective communities.

In 1917 the local stock associations assessed their members two cents per head for cattle grazed to buy material for salt storage structures and range salt boxes, manufactured and distributed by the rangers. Out of this grew the cooperative salt purchasing plan under which through the medium of the Alturas Stock Association almost all the stockmen in the Modoc country eventually bought their salt. This central purchasing plan resulted in very much lower prices and a better quality product. Cooperative range riding followed cooperative salting, groups of permittees using community ranges sharing the services of a range rider, paid from funds raised by a per-head basis levy.

A great deal of the range development work and maintenance of range improvements has been accomplished with funds raised under the method provided by law of depositing a percentage of the grazing fees in a special cooperative fund. The different astray horse campaigns have all been financed through stockmen's cooperatives.

There has been a considerable expansion of other Federal and various State agencies dealing with land use in the past decade and local forest officers work in close cooperation with such. The closest possible cooperation has always existed between officers of the Forest Service and county officials. Even though land exchange transactions mean the removal of thousands of acres of land from the assessment rolls, the Modoc county board of supervisors has invariably given their unqualified approval to Forest Service recommendations in such matters.

CCC, NIRA and WPA (ERA)

President Franklin D. Roosevelt's Civilian Conservation Corps provided a work force, which pushed the Modoc Forest development work years ahead. A special camp was built at Hackamore in 1933 and maintained there almost until the abandonment of the Corps in 1942. Spike camps from this main camp were established when necessary but the gentle nature of the Modoc terrain allowed workers from the main camp to reach out much further than in the average forest area.

In the spring of 1933 CCC companies were also installed in camps at the Long Bell Lumber Company woods headquarters at Glass Mountain and at the Crane Creek Lumber Company plant on Lassen Creek, both lumbering concerns being then in a non-operative status. Later in the summer the first-named was moved to a tent camp on Willow Creek, south of Adin. Both these companies were moved away during the late fall months of 1933. The Army threatened to take out the single remaining Hackamore Camp also in early 1944, since wheeled travel between the Alturas-Klamath Falls Highway and the camp was almost impossible in winter on account of the deep mud. Local residents strongly protested its removal. The Army said it could remain only if the camp access road and the camp area was graveled - immediately. There was no natural gravel for many miles and even that was inaccessible in winter. Local forest officers met the problem by setting a rock crusher outfit up against a lava rim-rock and macadamizing the 3 1/2 miles of road and the camp grounds.

With big timber development impending, the national depression did not affect isolated Modoc County seriously until May 1932 when three out of the four banks in the county closed their doors without a moment's warning. Hard times really

came after that and relief rolls were relatively as crowded as in more populous areas.

Practically all the relief work of the immediate following years was handled by the Forest Service in Modoc County and in parts of Lassen and Siskiyou counties adjoining. By the end of 1933 there were some thirty sizeable CWA crews working out from their homes on Modoc Forest projects. A large number of these workers were farmers and small stockmen.

It was difficult for the hard-working Modoc force to realize that labor was now a drug on the market and average standards of performance for a day's work were set, such as the cutting of so many telephone poles or fence posts per man-day. This system worked out pretty well with farmers and woods workers used to doing a fair day's work.

Funds for NIRA work were allotted direct to the Forest Service, which allowed full control of crews and their location in camps close to work projects. Some good development work was accomplished by these crews, particularly on road and public campground construction.

The evolution of the Works Progress Administration from the different work relief agencies created a separate organization but its ERA branch resulted in a small number of workers being turned bodily over to the Forest Service. By assigning and training two or three employees for each job to conform to the WPA regulation work periods, the Modoc Forest got considerable help through the medium of ERA. These employees supplemented CCC crews in fire suppression work, or were employed in sub-clerical positions and in construction and maintenance on easily accessible projects. The Modoc had a maximum allotment of 360 man-months of this type of labor during the year 1935. In December 1936 there was a total of 28 ERA employees working, and 15 a year later. The Modoc also furnished employment for 7 NYA youth during the period of existence of that relief agency.

War Activities

During World War II, the greatest contribution of the Modoc Forest to the prosecution of the struggle has been the efforts of its force towards increased agricultural and lumbering production. The supervisor, staff men and district rangers acted as leaders and served on all the various boards and committees engaged in furtherance of the war effort. They led community war bond sale campaigns, salvage campaigns, and acted as clearing - officers in timber and range management.

Modoc officers assisted the War Relocation Administration in location and management of the big Japanese internment camp at Tule Lake. In 1942 they processed a free use permit furnishing this camp with 15,000 cords of dead fuel timber, the biggest permit of this nature of record on the Forest. Many millions of board feet of timber were made available through emergency timber sales to increase the output of local lumbering concerns.

Special emergency range management plans were made to stock the local ranges to full safe grazing capacity. One of the new range allotments opened up in 1943 provided pasturage for 450 head of steers belonging to 9 permittees.

While there were no military units stationed within or closely adjacent to the Modoc Forest, in 1943 and 1944 the Forest furnished an area for a large naval

gunnery range on the Devil's Garden west of Goose Lake, and assisted Navy personnel in laying out the same. A large airplane landing field with a runway 7,800 feet in length was also built by the army in that same section.

Even though Modoc County was engaged primarily in the essential war work of lumber and livestock production, it had a larger proportion of its population serving in the armed forces than any county in the State. Of the Modoc National Forest force itself, on December 1, 1942, nine men were serving in the armed forces and twelve were working in war industry plants. By December 1, 1943, the Modoc Forest service flag showed 36 stars. A year later six more of its men had joined the armed forces.

Chapter VIII - Fire Protection

Degree and Types of Fire Hazard

There are not actual records extant of wild land fires on the Modoc prior to forest reserve withdrawal. During the latter years of the nineteenth century, local newspapers made casual mention of timberland fires burning here and there and of the smoky atmospheric conditions. A few cattle or a band of sheep trapped and burned in some fast-moving fire was a factor counted as one of the hazards of the industry. Groups of ranchers now and again fought rural land fires when their property interests were threatened. Fires in stands of timber distant from valley points were allowed to burn and large areas of worthless brush formerly supporting a stand of prize timber yet stand as a mute testimony to the havoc wrought.

More than sixty percent of all fires occurring on the Modoc Forest are caused by lightning. At times scores of fires have been started by a single electric storm. Cases are not at all uncommon where a dozen or more fires have been started during the progress of a storm within a single section of land. The saving factor is that electric storms are usually accompanied by a heavy splash of rain, which gives smoke chasers somewhat of a lead on the fires started by the lightning strikes. Dry electric storms are the dread of local officers and in the past have been responsible for many of the larger Modoc fires, since there was simply not enough man-power available to cover all the fires started before they gained headway.

Much of the high fire hazard country of the Modoc is level and men dispatched to a small blaze never see the fire until they reach its immediate vicinity. In the flat timberland of the Modoc Forest guards in the early twenties were furnished with pocket compasses having vernier readings, which duplicated those on the lookout maps. The smoke chasers were trained so that they developed a proficiency in driving to some given point on a road bisected by the lookout man's reading and following the same compass line to the fire. This method of quickly reaching small fires, developed by Ranger Ivan A. Cuff, is still proving its efficiency at the present time. Hundreds of fires in the flat country are caught and controlled while still incipient blazes.

Low humidity and high temperatures are frequent in July and August, the former dropping as low as five percent and the latter reaching up to 100 degrees or more. The diary of a Modoc officer in late July 1928 mentions "lightning fire after lightning fire" on the Happy Camp District. Part of one day's entry on July 27 reads: "Everyone all in and 5 men (out of 10) sick from heat and smoke. Sent W-- into doctor. Hotter than Hell without exaggeration."

As heavier logging operations spread over the Modoc Forest slashings on private land greatly increased the fire hazard. Another major fire control problem was the immense number of dead snags created as a result of insect infestation. One of these dry pine snags often-scattered spot fires over a half mile radius as the ever-prevailing high southwest winds struck their blazing tops.

The chest, or bronco grass, which gradually spread over the Modoc landscape greatly intensified the local fire hazard. This matted cover can only be compared in density to hair on a dog's back. It dries early in the season and when dry burns as though soaked in gasoline. During the past fifteen years the Forest Service has been compelled to fight fires on lands sometimes miles outside the Forest boundary because of the general prevalence of this vegetative cover.

As late as the middle thirties, there was very little worry about fire hazard on the close to half-million acre area of the extreme northwest woodland and lava bed section of the Modoc Forest. The encroaching cheat grass has now made this area extremely hazardous during the summer months and fires running into thousands of acres have swept through this section in recent years.

Fire Prevention and Pre-Suppression

For many years after the creation of forest reserves and national forests Congress appropriated no money to fight fire on private lands, yet in order to protect public timberlands, intermingled with large areas privately-owned, the Modoc officers were forced to fight fires on the lands of absentee owners.

The Red River Lumber Company (T. B. Walker interests) were the biggest timberland owners in northern California. In the bad 1910 fire season, Supervisor Chris Rachford wired the Red River Lumber Company at Minneapolis and asked for help in controlling a large fire burning on the company lands near Widow Valley, and seriously threatening public timber. On July 28, 1910, Clinton J. Walker, manager of the concern, wired reply to the local forest supervisor: "Endless hopeless job fight fires - think it not right principle - better burn now than few years later."

That particular fire did burn then. It covered 33,140 acres and completely destroyed over thirty million board feet of merchantable timber, nearly all on Red River Lumber Company lands. In later years this area was one of the most outstanding examples of fire devastation in Modoc County, covered as it was with a dense stand of snowbrush and manzanita growing amid the blackened snags and fallen tress, almost impenetrable by man or beast. Other bad fires that season in the same general section burned over some 93,000 acres inside the national forest and a larger area outside, mainly private land.

The attitude of the Red River Lumber Company - at that time - represented that of a good many other private owners who regarded forest fire as an Act of God and one of the risks of timberland ownership. Starting in 1917, after an intensive campaign on the part of forest officers, the majority of timberland owners on the Modoc Forest contributed to a cooperative fire protection fund on a pro rata per acre basis under which the Forest Service handled fire protection on their lands on exactly the same basis as on the adjacent national forest lands. These owners included the Weyerhaeuser interests and the Manistique Lumber Company, the extensive lands of the latter later becoming the nucleolus of the Pickering Lumber Company holdings. However, the Red River Lumber Company still did not

provide adequate fire protection for their extensive holdings and were decidedly lukewarm in their attitude towards forest protection generally.

As a result of a dry lightning storm there were 40 fires raging on the Modoc Forest on August 4, 1920. Supervisor Bill Durbin and Ranger Ivan Cuff counted 7 fires burning on Red River Lumber Company land in the vicinity of Whitehorse. The largest fire had covered 5,000 acres by August 8 and local volunteer stockmen had secured some slight measure of control. Public interests were not seriously threatened and the Forest Service already had its hands full fighting fires on public and cooperating owners' lands. No concerted control action was taken by the Red River Lumber Company until August 21 by which time the seven original fires had burned together, just as the local forest officers had predicted they would. More favorable weather came and the fire was controlled on August 24.

Foresters were pretty much incensed at the neglect of the big timberland holding company. In January 1921 District Forester Paul G. Redington organized a party to cruise the timber destroyed by this fire. The work of this group of forest officers was thorough and painstaking and the factual data which Redington presented to the Red River Lumber Company not only brought them in as paid cooperators with the Forest Service the following year in protecting their lands from fire, but was mainly responsible for the passage shortly afterwards of the California Compulsory Fire Patrol Law.

This party consisted of Paul G. Redington, S. B. Snow, E. I. Kotok, (Uncle) Joe Elliott, Duncan Dunning, W. G. Durbin, Ivan A. Cuff, John C. Davis, and Wm. C. Hodges - the last-named representing private timbermen's associations. Paul Demuth was cook and the party camped at his snowbound homestead near Egg Lake. Ranger Davis drove the 4-horse mule team that furnished the means of transport. The snow and mud were deep and the going hard, but the party remained on the job for two weeks until a complete checkup of the burned area was made. They found the loss of timber appalling. In the hottest part of the fire giant sugar pines had burned to the ground, and all timber growth was completely killed on some quarter sections. Ninety percent of the 14,000 acres burned over was Red River Lumber Company land.

It was afterwards amusingly related that members of the party became decidedly tired of the steady pork diet of the camp, since that was the only kind of meat available. At the conclusion of the work when the party was moving from camp to the town of Lookout the conversation during the long wagon ride dealt largely with visions of the big, juicy beefsteaks the officers would eat for supper. Hungry as wolves, they gathered around the hotel table and were greeted by the waitress singing out, "Ham and eggs, bacon and eggs, roast pork, pork chops or pork sausage." There was no meat product other than pork in the hotel larder either.

In 1929, practically every acre of private timberland within the Modoc Forest was under paid fire cooperative protection. That year 64 owners paid \$4,006 for protection of 359,917 acres. In 1932 there were 50 owners who paid a total of \$6,192 for the protection of 379,614 acres, and in 1936 a total of 57 cooperators paid for fire prevention and possible fire suppression on 381,473 acres.

In the winters of 1919 and 1920, the Modoc rangers and staff members gathered as a crew on the Happy Camp District and spent a considerable period in burning snags. The ranger crew averaged close to 100 standing snags and down logs per man, per day, firing all found within 100 yards of the truck trails in that vicinity.

About 85 percent of the snags burned down and those left standing presented a surface from which all inflammable material had been burned away.

This proved such good fire hazard reduction that it became a regular winter job. Since the advent of the CCC this work has been pursued more on a project basis by special crews. In the winter of 1943-44, a total of 18,353 dead snags were burned on 6,360 acres but in recent years the daily average of nearly 100 snags per man has dropped to 75 per man-day since those which do not burn down are now felled or pushed over with tractors. In spite of all modern torch equipment available the Modoc force has found that the most efficient torch for use in this work is a length of cedar bark dipped occasionally into kerosene. The rangers who pioneered in this work used pitch pine torches.

Fire prevention work among school children has been a leading activity in Modoc Forest administration for several decades. Annually, for years during the twenties, a county-wide conservation contest was carried on among the schools, the first prize winners in each group being treated to a three-day camping trip, with forest officers playing host. The second prizewinners were taken on a one-day picnic to some point of special interest on the forest. The Boy Scout troops in various sections of the county usually had the local forest officer as one of their executives.

The Modoc Tribesmen, who made a several-day ride in the Warner Mts., consisted of 50 or 60 business and professional men interested both in the outing and in forest protection. Organized by Supervisor Mel Barron in 1944, this mountain ride attracted national attention the following year when Life magazine flew in a photographer and special writer to participate in the trip.

Organized in 1920 on a State-wide basis, with General H. H. Arnold (then a major at Mather Field) as the moving spirit, two air forest patrol routes functioned on the Modoc that year and part of the following. One of these patrols came in from Medford, Oregon to Alturas, the other from Red Bluff, California. Ranger John C. Davis was appointed liaison officer at the latter place. Planes were named by Army pilots and Forest Service observers.

Air patrol was not too successful on the Modoc. Pilots were frequently lost and found themselves somewhere over southern Oregon or western Nevada instead of over the Modoc National Forest. The land field at Alturas was much too small and during the season six ships crashed in that vicinity. On July 10, 1920 a plane crashed and burned near Alturas killing the three occupants, Sergeant Wayman Haynie, Corporal A. A. Salcido and Forest Observer Harold B. Robie. It was supposed that Pilot Haynie fainted at the controls shortly after taking off. The five other crashes resulted in only minor injuries to the respective ships' crews.

The late Floyd Keadle, an Army pilot, gained a lot of his dare-devil reputation on the Modoc patrol. Keadle, who returned later to the Modoc to serve as forest guard, once flew under every bridge over the Sacramento River between Red Bluff and Sacramento. He is credited with flying the first plane over Mt. Shasta, his companion, Liaison Officer John Davis, snapping photographs of the rocky summit, dangerously close below the wheels of the DeHaviland plane.

In periods of exceptionally bad fire hazard, closure restrictions were occasionally imposed on the Modoc Forest during the twenties. They were exceedingly difficult to enforce due to the easy accessibility of the Forest, the large areas of similar lands lying along the boundaries and the lack of funds to maintain

adequate patrol. One of the years the Forest was closed for two weeks to recreational use because the primary lookouts were entirely "blind". A pall of smoke from the burning Klamath Marsh, lying to the northwest, blanketed the entire country. This condition was an annual occurrence for several years as settlers burned the tules and the peat soil with it on reclaimed lands in Lower Klamath Lake.

Fire-fighting man-power was quite a problem on the Modoc during the years of World War No. II. Local officers organized and trained some 800 men as volunteer fire-fighting crews, drawing their man-power mainly from the lumbering concerns. Thirty volunteer rancher fire-fighting units were organized to make the initial attack on fires breaking out near their respective communities, the farmers being relieved from work when lumber-jack crews reached the scene to take over in case control was not secured by the first arrivals. Often these farmer crews were able to control a cheat grass fire while it was still small.

Fires Through the Years

During the first ten years of administration there were no major fires on the Modoc Forest except during the universally bad fire season of 1910. So far as fire danger rating was concerned, the Modoc was placed in the same class by the District Office as the Mono and Inyo Forests. The South Warners District, with Cedar Pass traversing the extreme north end used to be jokingly referred to as the "asbestos" district.

On August 31, 1921: some traveler dropped a match or burning cigarette along the new highway building over Cedar Pass and a spectacular fire blackened several hundred acres of white fir timber, tying up traffic and scaring the wits out of scores of automobile travelers. The intense heat and rapid spread of this fire in an area where no fires of consequence had been known before was surprising. Neither the district ranger nor his one guard assigned to the district, both absent on grazing work in the back country, knew about the occurrence of the fire for three days, the fire being brought under control by the supervisor and the executive assistant with highway construction crews, after a hard 24-hour battle.

Several other nasty fires taking place that year brought home the fact that the Modoc country was pretty inflammable after all, and the district forester moved the Modoc into the classification known as "Fire Forests". From 1911 to 1920 inclusive, the average annual number of fires was 48 and the average annual area burned 1,806 acres. The average guard man-power during that period was 22-man-months annually.

Although their Forest was in the low hazard fire class the Modoc force had no delusions about the inflammability of their timber and ranges and during the World War No I years of 1917 and 1918 fought some bad fires, with a notable shortage of manpower. In 1917 a local priest and one of the newspaper editors decided to spend a week fishing in the Mill Creek country. Leaving their camp fire unattended one morning while they caught a mess of trout for breakfast, it took off, burned out their Camp completely and spreading to the surrounding timber, gave forest officers and assembled fire crews a lively tussle to control it. The newspaperman, an ardent believer in light burning of forest lands, somewhat atoned for his carelessness by later becoming an ardent advocate of forest protection.

In August of 1917 two sawmills in the North Warners burned within a week destroying a considerable volume of lumber cut for war use. Both fires were laid at the door of German sympathizers who also were believed responsible for a previous attempt to burn out the forest supervisor's office in Alturas. Several other suspected incendiary fires occurred on the Forest and a number of haystacks were burned at valley points. That year dry weather continued till late in the fall. Thousands of bushels of much needed wheat was stored in wooden buildings in Alturas. Mysterious fires kept popping up here and there. Throughout the country and the County Board of Supervisors, somewhat jittery over the incipient conflagrations, asked the State Governor to mobilize the Home Guard unit. The local military company was maintained on a semi-mobilized basis for six weeks, special patrolmen also being hired by the county and sent out on patrol in the back country to supplement the ranger force.

The 1918 season produced some nasty fires, with short manpower to handle them. The season wound up with Supervisor Durbin, his assistant, two district rangers and three or four guards handling the field work of the Modoc. The cooperativeness and fire consciousness of Surprise Valley residents was illustrated that year. On June 16 a fire started in Lake City Canyon, just above the town of Lake City. For a time things looked mighty bad to the district ranger and two or three helpers. Help came soon. For several miles up and down the Valley man, women and older children dropped their farm tasks and repaired to the scene of the billowing smoke. The fire, which burned 222 acres, was controlled in a few hours. The women folks prepared lunches and the local populace staged an impromptu picnic. District Ranger L. L. Smith figured that it would be out of order to pay the hundreds of fire-fighters who had rendered such valuable assistance, so Supervisor Durbin sent each fire-fighter a letter of appreciation in lieu of a pay check. That same year three or four forest officers did their best to handle fires of the same size and type which in later years required large crews to control.

The year of 1920 was a rather bad one from a fire standpoint, 56 fires starting from lightning during the season. One peculiar fire in the north end of the Devil's Garden District was started by a Basque shepherd. Something alarmed the sheep and the herder started running to round up his scattered charges on a dry meadow. Block sulphur matches became ignited in his pocket and he kept throwing them out block by block as he ran. Each block of matches thrown out started a separate fire in the dry grass and when the district ranger arrived the fires had joined to sweep into the surrounding timber. The ranger had a badly scared herder, a band of scattered sheep and a major fire on his hands, all at one time.

The summer of 1924 was just as bad a fire season on the Modoc as it was in other forested areas of the State. Lightning fires started popping early in May and although the fire season was broken in mid-September by light general rains, there was a total of 108 fires, 66 of which were started by lightning.

One of the early season 1924 fires was caused by children at the Timber Mt. sawmill burning paper by reflecting the sun's rays through a telescope lens. Whirlwinds scattered this fire, which burned 1,400 acres and destroyed 5,200,000 board feet of merchantable ponderosa pine timber. During midsummer several lightning fires burned together on the Happy Camp District blackening several thousand acres in different locations. The entire Modoc force, from supervisor to guard, fought fire day after day and week after week for an almost two-month

period. The total fire loss that year on Government lands on the Modoc was 24,252,000 board feet of merchantable timber.

The worst timber fire in Modoc history started on the Southern Pacific railroad track at the foot of Sugar Hill at 12.55 p.m. on July 22, 1929. The relative humidity was near zero, the temperature was soaring and the wind was a regular gale. Every employee was on the alert and when the news of the fire's start first came from the lookouts, little concern was felt that the fire would cross the highway, some half mile above the, railroad track. Ranger L. L. Smith, with a crew of men, was on the scene within a few minutes and afterwards stated that no amount of manpower could have stopped the flames sweeping up the steep hill through the short grass. The fire crossed the highway, hit the timber and crowned immediately. It burned over 6,000 acres of the Modoc's best timberland within the next two days. When at its hottest the fire swept half a mile across Lassen Creek Canyon in an immense sheet of flame from the treetops on one side to those on the other without even igniting the ranch buildings and haystacks on farmlands in the canyon bottom.

With 600 men on the lines, the fire raged for two days before its progress was checked, killing all living vegetation in its path. A heavy patrol job followed, but in spite of close watching the fire on August 5 burned along a pitch pine root underground and broke out again, to burn over 500 acres more before being checked by 300 firefighters. Besides the losses on the Crane Creek Lumber Company holdings, sixty million board feet of timber was destroyed and the total fire loss rated at \$295,330.

The Crane Creek Lumber Company sawmill and camp was in the center of the fire. Heroic efforts saved the sawmill plant but many of the workers' homes were burned. The only road to safety for the women and children of the woods town was over a steep, single track, dirt road. Miss Meta C. Boutin, owner with her father of the Crane Creek concern, heroically engineered the rescue of these people. Old cars, piled high with personal belongings, which could not make the grade were unceremoniously rolled into the canyon below, to be later caught by the flames. Although most of the Company employees lost all their personal possessions later to be reimbursed therefore by the Southern Pacific Company - no human lives were lost. There was good leadership all the way through on this Sugar Hill Fire of 1929, up to that time the worst in Modoc history.

With thousands of blackened acres surrounding their plant, the Crane Creek Lumber Company's logging activities turned into a salvage operation, stumpage prices for ponderosa pine being reduced from \$4.49 to \$3.50 per M ft. Most of the fire-killed timber was utilized. The Southern Pacific later settled the bill for this fire with both the Government and private owners.

This Sugar Hill Fire of 1929 was the first of the series of disastrous fires, which swept the North Warners during following years. Large brush fields have taken the place of virgin timber, relieved somewhat, however, by the vigorous reproduction coming in, and the fine, rapidly-growing plantations.

Even while this big fire was burning, other major fires were going in the western part of the Modoc, more easily handled because of the concentrated manpower made available by the Southern Pacific and Great Northern railroad construction crews. Both railroad companies were exceedingly cooperative. The Great Northern asked the Forest Service specifically that when drafting men to fight fire they take every man-jack in camp except watchmen - bosses, cooks and all. Once

Guard I. Joe Callaghan took this request very literally and drafted also the heads of the Great Northern Railroad system that happened to be on an inspection tour when a bad fire broke. These railroad executives rescued shortly afterwards from a fire camp, not only enjoyed the experience, but highly complimented young Callaghan and the Forest Service for the action.

Both 1931 and 1934 were bad fire seasons on the Modoc Forest and in both of these years the North Warners District again suffered heavily. There were 118 fires within the Modoc Forest in 1934, of which 72 were started by lightning. For several weeks the fire situation was a replica of that of 1924. Again in 1939 the Modoc was hard hit by lightning with 135 fires from this cause and a grand total of 182 fires, the greatest number of any year in Modoc history. The Crane Creek Fire of August 1939, started by unknown smoker, burned 2,190 acres, mostly virgin timber, and accounted for the larger part of that year's monetary fire damage.

July 6, 1940 witnessed the start of Sugar Hill Fire No.2, which burned 5,142 acres of green timber and old burn, the fire burning so rapidly that it covered 1,500 acres in 1 1/4 hours. Worse still was Sugar Hill Fire No.3, which broke out on August 3, 1940. It was first controlled within 160 acres but broke over the line and before final control burned over 19,373 acres. Day after day during the progress of this fire humidity dropped almost to the bottom mark and freakish winds changed direction with abrupt suddenness. Forest officers were brought in by plane from all parts of the California Region and from Oregon points to relieve the tired Modoc force leading 1,000 firefighters. This fire took two weeks to control and so bad were the burning conditions that the fire which had covered 2,000 acres the first night, had burned over 10,000 acres by the following night, and traveled just as rapidly at night as in the daytime.

This fire destroyed 26 million board feet of timber. On August 9 while it was still raging, another fire broke out on the middle fork of Davis Creek just to the south, burned over 1,200 acres in two hours and 25 minutes and a final area of 2,000 acres before being controlled by 400 men. The North Warners section had become perhaps the leading area of the State as the scene of disastrous fires. Both the woods sawmill plant the large box factory of the Crane Creek Lumber Company at Willow Ranch have burned to the ground in recent years.

There was comparatively little timber burned on the Modoc Forest during the years 1941 to 1944, inclusive. The scene of major Modoc fires shifted to the northwest section of the Forest in 1941 when the Barntop Fire swept over 86,700 acres of grassland and woodland, on and off the national forest, during its week's burning from July 13 to 19. Practically no timber was destroyed by this big blaze in which the cheat grass carried the flames with the speed of a galloping horse.

During the war years of 1942 to 1944 some bad grass fires were fought, mainly outside the national forest boundary. In 1942 two fires were started by beavers at widely separated points on the Modoc Forest. In each case the animals cut down a cottonwood tree, which fell across a power line.

In spite of the bad fires marking Modoc Forest history, in 23 of the 34 years from 1911 to 1944, inclusive, less than one million feet of timber was destroyed and in four of the years, 1933, 1938, 1941 and 1944, practically none at all.