

United States Department of the Interior
National Park Service

National Register of Historic Places Multiple Property Documentation Form

This form is used for documenting multiple property groups relating to one or several historic contexts. See instructions in *How to Complete the Multiple Property Documentation Form* (National Register Bulletin 16B). Complete each item by entering the requested information. For additional space, use continuation sheets (Form 10-900-a). Use a typewriter, word processor, or computer to complete all items.

New Submission Amended Submission

A. Name of Multiple Property Listing

Lassen Volcanic National Park Multiple Property Listing

B. Associated Historic Contexts

(Name each associated historic context, identifying theme, geographical area, and chronological period for each.)

- Overland Emigration, Lassen Region (ca. 1849-ca. 1869)
- Extractive Industry and Permanent Settlement, Lassen region (ca. 1850-1916)
- Geologic Studies (Volcanology), Mount Lassen (1863-1953)
- Tourism and Recreation, Lassen region (ca. 1860-1916)
- National Park Service Administration, Lassen Volcanic National Park (1916-1953)

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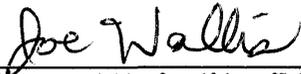
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state Montana

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D. Certification

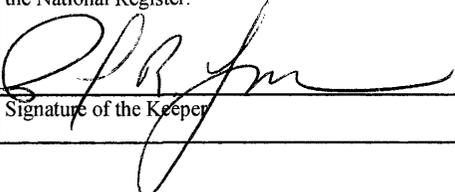
As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this documentation form meets the National Register documentation standards and sets forth requirements for the listing of related properties consistent with the National Register criteria. This submission meets the procedural and professional requirements set forth in 36 CFR Part 60 and the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. ([] See continuation sheet for additional comments.)


Signature and title of certifying official
National Park Service

5-10-06
Date

State or Federal agency and bureau

I hereby certify that this multiple property documentation form has been approved by the National Register as a basis for evaluating related properties for listing in the National Register.


Signature of the Keeper

6/23/06
Date of Action

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Provide the following information on continuation sheets. Cite the letter and the title before each section of the narrative. Assign page numbers according to the instructions for continuation sheets in *How to Complete Multiple Property Documentation Form* (National Register Bulletin 16B). Fill in page numbers for each section in the space below.

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Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing of determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 *et seq.*).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

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Introduction

Rising 10,457 feet above sea level, Lassen Peak in northeastern California marks the southern edge of the Cascade Range. It lies within a region of tertiary lava flow that includes not only northeastern California but also portions of Oregon, Washington, Idaho, and Nevada. The massive, snow-covered peak is the southernmost volcano in the series that includes Mounts Baker, Rainier, Hood, and St. Helens.

Lassen Volcanic National Park encompasses 106,372 acres, situated primarily in southwestern Lassen County and southeastern Shasta County, California but also incorporating parts of Plumas and Tehama counties. In addition to evidence of volcanic activity, the park offers its visitors beautiful vistas of Mount Shasta to the northwest and of the Sierra Nevada to the southeast. On May 6, 1907 President Theodore Roosevelt established Cinder Cone and Lassen Peak National Monuments, in recognition of the region's geological interest and recreational value. On May 30, 1914, Lassen Peak in northern California's Shasta County erupted with a roar and a tall plume of ash that captured newspaper headlines and attracted scientific attention from across the nation. This explosion began an eruptive phase of the volcano that would climax one year later and finally subside in 1921. Two years after its awakening, in August 1916, Lassen Peak and the surrounding area were designated Lassen Volcanic National Park in recognition of the mountain's status as the only active volcano in the continental United States. The new park encompassed not only the blackened cone of Lassen Peak itself but also a weird volcanic landscape of ancient volcanoes and active thermal areas. The region is heavily timbered with lush summer range beyond the timber line, prone to deep snow, and largely void of mineral wealth. It is also spectacularly beautiful and pleasantly cool in the summer months when the nearby Sacramento and Central Valleys of California are unpleasantly hot. These characteristics all defined the park's cultural history.

Significant historic use patterns within the boundaries of Lassen Volcanic National Park include tribal use; exploration, settlement and resource extraction; the development of the recreation and resort industries in the state; and the growth and refinement of a recognized National Park Service architectural tradition and conservation ethic. Each discrete land use and era of development resulted in physical impacts to the natural environment.

Yet, in reflection of the park's rugged topography, isolation, and extreme climate – all of which encouraged native and emigrant inhabitants to migrate to more hospitable climates each winter – these cultural resources are relatively rare. Administrators of the nascent park, charged with development of visitor services, described a virtual "blank slate." This paucity of resources also mirrored the politics of park designation and of proposed boundary expansion: to a large extent, park boundaries reflected the difficulty of conserving land known or believed to carry a higher economic value if exploited to its fullest timber, livestock, farming, or real-estate potential. In 1939, a committee studying the advisability of park expansion wrote "the local public [considers] the present boundaries of Lassen Volcanic National Park . . . generally satisfactory, since they encompass no areas of any great value as grazing, hunting, or timber land." Lassen Volcanic National Park presented a virtually blank slate because it had been carved from largely inaccessible land promising no great wealth. Extant cultural resources within the park largely reflect these historic land-use trends.

Today Lassen Volcanic National Park contains cultural resources associated with overland migration, mining, homesteading, recreation, geological studies, and National Park Service administration. These themes are detailed below, with focus on the impact of development upon the land and the characteristics of the built environment associated with each theme. Those themes of which surviving cultural manifestations are unlikely – including the fur trade, exploration, and overland migration – are not detailed in the following management document: extant resources are so rare or unlikely that comparative analysis of shared characteristics and integrity is not possible (for example, resources associated with the fur trade). Prehistoric and ethnographic resources are addressed in a separate Ethnographic Resource Study.

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Four Native American Tribes – the Atsugewi, Yani, Yahi, and Maidu – once traditionally used the area now formally designated as Lassen Volcanic National Park. Because of generally high elevations and heavy snowfall, these tribes used the area for seasonal hunting and gathering rather than for year-round habitation. (See the Lassen Volcanic National Park Ethnographic Resource Study). Euroamerican settlement in the region, sparked by the Gold Rush, dates from the 1840s and early 1850s, although fur trader and explorer Jedediah Smith had traveled through the area as early as 1821 on his overland journey to the Pacific Coast. Like that of the native inhabitants, Euroamerican use of the park proved equally seasonal, with settlers returning to the valleys during the winter months due to the heavy mountain snows.

Two pioneers, William Nobles and Peter Lassen, guided emigrants through the area. In 1851, Nobles discovered an alternative route to California other than crossing the Sierra at Donner's Pass. Portions of the Nobles Emigrant Trail, which ran from Humboldt, Nevada, to Shasta City, California, are still visible in Lassen Volcanic National Park. Peter Lassen had come to the United States from Denmark. Beginning in 1848 he guided emigrants over the Lassen Trail, located south of the peak that now bears his name. For these emigrants, the peak functioned as a landmark, evidence that they had breached the dreaded Sierras and approached the promised land.

In 1878, Army Corps of Engineers crews under the direction of S. E. Tillman mapped the vast region of the southern Cascades/northern Sierras roughly bounded by the upper reaches of the Sacramento Valley to the south, the foothills of the Sierras to the west, Susanville to the east, and Cinder Cone to the north.¹ Of the high country, Tillman noted no agricultural potential beyond summer graze but was struck by the view: "the natural scenery of the region, especially around Lassen's Butte, is seldom surpassed."² Others echoed this assessment and described a region characterized not only by beauty but by geological curiosity, an "infernal region" of fire pots and hot springs, displaying "the wonders of hell."

Seasonal recreational use has proven the most long-standing land-use activity, initiated by miners and explorers in the 19th century and continuing unabated, by ever greater numbers, into the 21st. Economic activity in the vicinity of the park has also included power development, ranching, and logging -- all of which contributed to the economic development and settlement of the region while also resulting in ecological damage to the fragile land base. Lassen Peak and the surrounding area were incorporated within the Lassen Peak Forest Reserve in 1905. Additional federal protection followed in 1916 with designation of Lassen Volcanic National Park and subsequent management under the philosophy of natural resource preservation and protection rather than multiple use; increasingly, the physical and spiritual redemption offered by mineral springs, mountain vistas, and mountain trails defined the area's principal economic value.

Context: Overland Emigration

Known cultural resources associated with Overland Emigration are limited to the remains of Nobles Emigrant Trail, used most intensively between 1851 and the completion of the transcontinental railroad to Sacramento, in 1869. The trail corridor, as found within the boundaries of the park, is listed in the National Register of Historic Places under criterion A for its significant association with American settlement. Additional resources associated with this theme include Lassen Peak as seen from the trail corridor - a natural feature ascribed cultural value by those emigrants who used the peak as a landmark and place marker – and also the meadows at Badger's Flat, where emigrants found abundant grass and water

¹ S. E. Tillman, "Report of Lieutenant S. E. Tillman, Corps of Engineers, in charge of party No. 1 Utah Section, Field Season of 1878," in U.S. Geographical Surveys West of the 100th Meridian, *Report upon United States Geographical Surveys West of the One Hundredth Meridian* (Government Printing Office, Washington, 1879), p. 210.

² Tillman, "Report of Lieutenant S. E. Tillman," p. 211.

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for their livestock. Camp sites also remain along the corridor, at those locations offering water and sufficient grass for livestock.

Beginning in the early 1840s, hundreds of Americans joined an overland migration to California. These travelers had to overcome the vicissitudes of great distance, deserts, and finally the formidable barrier of the Sierra Nevada. The California Trail included numerous alternate routes or “cut-offs,” some prudent and others disastrous. In the middle of this great migration of farmers, gold was discovered in California and the movement of people swelled to thousands. Pioneer settlements in California that had been founded around farming and stock raising were suddenly drained of population as people rushed to the gold fields.

The migration of the 1840s and 1850s left few visible traces in the vicinity of Lassen Volcanic National Park, but it produced dramatic changes in the larger cultural and political landscape of northern California. These developments in turn created the context for mining, lumbering, and other industries that would affect the area around Lassen Peak in the latter part of the nineteenth century.

Origins of the Oregon and California Trail System

Historian John D. Unruh, Jr. wrote that overland migration has been “one of the most fascinating topics for writers, folklorists, and historians of the American West. The overlanders’ . . . legendary covered wagons have come to symbolize America’s westward movement.”³ While Unruh’s *The Plains Across* remains the classic account of the overland experience, more recent scholarship has emphasized darker aspects, such as the impact on Indian cultures and the environment. Moreover, if all migrants were motivated by a desire to improve their condition, the overwhelming majority of migrants bound for California were motivated by the dream of quick wealth. After gold was discovered in California, the migration was overwhelmingly comprised of adult males. It was a more impatient, raucous, and selfish population than that which peopled Utah or Oregon.⁴

All migrations are a response to both “push” and “pull” factors. Depression hit the vast Mississippi Valley in 1837. Land and opportunity that only twenty years earlier had represented the American frontier were scarce. Wheat sold for ten cents a bushel, corn for nothing, “and bacon was so cheap that steamboats used it for fuel.”⁵ The push factor in goading this “free, enlightened, [but] redundant people” to move west was considerable.⁶

The pull factors were also compelling: the opportunity to secure the Oregon Country as American territory, and the availability of unlimited, fertile soil not only in Oregon but also in Mexico’s northern province of California. Additional pull factors were the mild climates of Oregon and California and the hope of improving one’s health.⁷

The pull had begun decades earlier, in print if not in fact. In 1813, the St. Louis *Missouri Gazette* reported the existence of a route from St. Louis to the Columbia River without obstacles “that any person would dare to call a mountain.”⁸ In 1830, fur trapper William L. Sublette successfully breached the Continental Divide with wagons at South

³ John D. Unruh, Jr., *The Plains Across. The Overland Emigrants and the Trans-Mississippi West, 1840-60* (Urbana: University of Illinois Press, 1979), p. 3.

⁴ Richard White, “*It’s Your Misfortune and None of my Own*”: *A History of the American West* (Norman: University of Oklahoma Press, 1991), pp. 191-192; David Wyatt, *Five Fires: Race, Catastrophe, and the Shaping of California* (Reading, Massachusetts: Addison-Wesley Publishing Company, Inc., 1997), pp. 50-77.

⁵ Ray Allen Billington, *Westward Expansion* (New York: The MacMillan Company, 1967), p. 90.

⁶ Hall J. Kelley, General Agent for the O. C. Society, *American Society for Encouraging the Settlement of the Oregon Territory*, ca. 1831, Entry #135, Roll 9, “Western Americana 1550-1900: Frontier History of the Trans-Mississippi West,” University of Montana Special Collections, Missoula, Montana.

⁷ White, “*It’s Your Misfortune and None of my Own*,” pp. 190-191.

⁸ Quoted in Unruh, *The Plains Across*, p. 28.

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Pass, Wyoming. He subsequently reported to the Secretary of War that “the ease and safety with which it was done prove the facility of communicating over land with the Pacific ocean.”⁹

Others urged caution, arguing that while the mountains might be passable (with great difficulty), the “Great American Desert” was not. W. J. Snelling predicted mass starvation in the arid plains, loss of stock to Indian theft, and Indian attack “in retaliation for the pillaging of white hunters.” He concluded that the trip could not be made in one season, forcing emigrants to winter in the Sierras, where they could first eat their horses and then their shoes, before “starving with the wolves.” Potential emigrants debated the wisdom of the journey in this carnival of “ignorance, unreality and confusion.”¹⁰

In compelling demonstration of the journey’s possibility, Presbyterian missionaries Samuel Parker, Marcus Whitman, and Henry Spaulding, in the company of women and children, traveled overland to Oregon Territory in 1834. Methodist Missionary Jason Lee followed in 1839, with 51 settlers. These men and women went west as evangelists, not to prosper but to save the souls of native inhabitants. Yet, as western historian Ray Allen Billington observed, “their contribution to history was significant, not as apostles of Christianity, but as promoters of migration. More than any other group they kept alive the spark of interest in Oregon and hurried the westward surge of population into the Willamette Valley.” Reports sent from the Whitman Mission to eastern religious journals were replete with details of prospering farms, abundant resources, and virgin land. Perhaps as significantly, the Whitmans’ presence promised shelter at the end of a long and unfamiliar trail.¹¹

California boosters also described a gentle and healthy climate, potential agricultural wealth, an enormous variety of resources, and abundant game.¹² In 1840, Richard H. Dana published *Two Years Before the Mast*, “probably the most influential single bit of California propaganda.” Dana boasted, “In the hands of an enterprising people, what a country this might be!” An enterprising people responded, further enticed by gold.¹³

Bidwell-Bartleson Party, 1841

The first party to travel overland to California hailed from Platte County, western Missouri. The 69 men, women, and children were encouraged by returned trapper Antoine Robidoux who described a perfect paradise, a perennial spring.¹⁴ They were led by John Bidwell and John Bartleson and further assisted by trapper Thomas Fitzpatrick and Jesuit priest Father De Smet. As Bidwell recalled years later, “Our ignorance of the route was complete. We knew that California lay west, and that was the extent of our knowledge.”¹⁵ Like the parties to follow, they raced the seasons, scouting the Platte River plain for the first sign of sufficient spring grass to sustain their herds, and driving across country at an average pace of fifteen miles per day in a desperate race to get over the Sierra Nevada before winter. The Bidwell-Bartleson party followed the Oregon Trail as far as Soda Springs (near present day Pocatello, Idaho). Here, half the party opted for Oregon. The remainder abandoned their wagons and proceeded southwest across the tortuous, alkali “Bonneville Flats” west of the Great Salt Lake, along a trail blazed – and dismissed – by Jedediah Smith in 1827.¹⁶

⁹ Sublett quoted in Unruh, *The Plains Across*, p. 29.

¹⁰ Unruh, *The Plains Across*, pp. 29-30.

¹¹ Billington, *The Far Western Frontier, 1830-1860*, pp. 83-85.

¹² Billington, *The Far Western Frontier, 1830-1860*, pp. 562-565.

¹³ Quoted in Billington, *The Far Western Frontier, 1830-1860*, p. 563.

¹⁴ John Bidwell, “A Journey To California [first published ca. 1842],” *First Three Wagon Trains* (Portland, Oregon: Binford & Mort, n.d.), p. 7.

¹⁵ Bidwell, “A Journey To California,” p. 9.

¹⁶ Billington, *The Far Western Frontier, 1830-1860*, p. 565.

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Chiles Party, 1843

Other parties followed by alternative routes: via Santa Fe, via Oregon, and, in 1843, via Granite Pass, by way of the Oregon Trail to Fort Hall. This latter party traveled under the leadership of Joseph Walker and Joseph B. Chiles, a member of the Bidwell-Bartleson party of 1841. At the confluence of the Raft and Snake rivers, Chiles and “a few companions” proceeded west along the Snake, to the Malheur River, and thence south to California. Walker and the remainder of the party proceeded up the Raft River, to the Goose Creek range, to a (barely) tolerable wagon crossing at Granite Pass, to the Humboldt River and thence west across the Sierra Nevada to California – a route destined to become the main overland road to California.¹⁷

This route met the basic requirements of an overland trail: it possessed a minimum of geographic obstacles; water was available at reasonably regular intervals, as was sufficient browse for emigrant stock; and, with the exception of the unfortunate and much-lamented loop to the north between South Pass and the Raft River confluence, the trail formed a direct line between the Mississippi Valley and the promised land.¹⁸

Alternative trails varied the route between the Upper Humboldt and California. These alternative trails included the Nobles Trail that cut across the northern section of the park. (The Lassen Trail, another alternative route, ran east and south of the present park; there are no cultural resources associated with its development and use extant within the park. For a history of the trail, please see the *Lassen Volcanic National Park Historic Resource Study* [HRA 2003].)

The Nobles Emigrant Trail

The Nobles Emigrant Trail (aka Nobles Trail) was pioneered and promoted by William H. Nobles. Born in New York in 1816, Nobles became a machinist and skilled artisan and moved to Minnesota in 1841 at the age of twenty-five. He moved frequently from place to place in Minnesota before emigrating to California. In the spring of 1851, Nobles led a party of about 80 men on a trip across the mountains in search of a fabled Gold Lake. Reaching Honey Lake Valley, the party disbanded while Nobles continued eastward. Intersecting the Applegate Trail at Black Rock Point in the Black Rock Desert, Nobles realized he had found a shorter route between the Humboldt River and the upper Sacramento Valley. He retraced his steps to Honey Lake Valley and then forged a trail westward across the mountains around the north side of Lassen Peak (then called St. Joseph’s Mountain) via the low pass that bears his name. He entered the upper Sacramento Valley by way of Mill Creek, striking the existing wagon road near the present town of Anderson, and followed it into the mining camp of Shasta. Aware of the potential significance of his discovery, he called a meeting of the town fathers. The townspeople raised a subscription of \$2000 and hired Nobles to return across the mountains and divert emigrants on the California Trail onto this new route ending at Shasta.¹⁹ A party of citizens volunteered to accompany Nobles and the party departed Shasta on May 3, 1852, returning June 24. They reported that wagons could cover the whole distance from the Humboldt to the Sacramento Valley in eight days. Several members of the party thought Honey Lake Valley showed potential for agriculture and took up claims there.²⁰

Nobles departed for Minnesota in the summer of 1852, leaving to others the task of inducing emigrants on the California Trail to take the cutoff. Emigrants generally knew of the Lassen Trail’s bad reputation and were reluctant to turn off the main California Trail. Indeed, many parties contained members who had previously traveled the Lassen Trail

¹⁷ Unruh, *The Plains Across*.

¹⁸ Dale L. Morgan, *Jedediah Smith and the Opening of the West* (Indianapolis: Indiana University Press, 1953), pp. 83-85, 91-92; Daniël J. Hutchison and Larry R. Jones, editors, *Emigrant Trails of Southern Idaho* (Boise: Bureau of Land Management and Idaho State Historical Society, 1993), p. 3.

¹⁹ Robert Amesbury, *Nobles’ Emigrant Trail* (Susanville, California: Robert Amesbury, 1967), p. 5.

²⁰ Fairfield, *Fairfield’s Pioneer History of Lassen County California*, p. 18.

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in 1849, and when the men from Shasta tried to talk these parties into taking the new route the veterans of the Lassen Trail sometimes threatened violence. Finally, one emigrant party was induced to take the Nobles Trail. In 1853, some improvements were made to the trail and eventually it attracted the largest emigration into northern California.²¹

Back in the Territory of Minnesota, Nobles conceived of a transcontinental route leading from St. Paul to northern California. The route would cross the Rocky Mountains at South Pass, and would traverse the Sierra Nevada at Nobles Pass. Several towns in Minnesota saw the commercial advantages of such a route, particularly if the federal government chose the route for the construction of the first transcontinental railroad. Nobles made a speech on the proposal to the Territorial Legislature.²² In 1854, leading citizens of the territory organized a mass meeting to develop a strategy for lobbying Congress for such a measure. Funds were raised to print Nobles speech and to pay Nobles expenses to Washington.²³

Congress approved funds for a series of transcontinental railroad surveys, and Lieutenant Edward G. Beckwith was put in charge of a survey along the 42nd parallel from Salt Lake City to Sacramento. In response to the recommendations by Nobles and others, Beckwith surveyed the Nobles Pass area in June and July 1854. The survey party explored as far north as the Pit River. Near the south end of Round Valley, the party intersected the Lassen Trail, which Beckwith described as "well worn, but at present seldom used." Near Pine Creek, the party struck the Nobles Trail and followed it through thick forest to Summit Creek. Beckwith reported, "In approaching camp through the woods, the road was very much obstructed by surface stones, which would have been avoided by following an open, level, grassy space leading directly from Pine to Summit creeks, a mile north of the general line of the road."

Beckwith found the Nobles Pass route to be feasible, although he did not give it much praise. The descent into the Sacramento Valley was steep and direct and would require further survey. "The summit depression of the pass itself is three-fourths of a mile broad towards the east, and very soon expands to two miles," Beckwith wrote, "a high, round peak, destitute of timber, rising to the north to the height of 300 feet; and, to the south and east, steep, rocky peaks and masses rise towards Mount Saint Joseph (sometimes called Lassen's Peak,) which is three or four miles distant, and covered with snow from its summit downwards for a thousand feet."²⁴ Of most concern to Beckwith was the size and duration of the snow pack over this route.

If Nobles had not yet convinced Congress of the advantages of the Nobles Pass route, he had at least succeeded in placing Honey Lake Valley on the national map. In 1856, Congress appropriated funds for the construction of a wagon road from Fort Kearny, Nebraska to Honey Lake, California. This road promised to give impetus to the Nobles Pass route. Nobles wanted to be appointed superintendent of the Honey Lake Road. But his candidacy for the job was thwarted by the rival candidacy of William M. F. Magraw, a personal friend of President James Buchanan. To avoid a deadlock, the road was divided into three segments and Magraw was named superintendent of the eastern and central portions. The way seemed to be clear for Nobles to take charge of the western division, which would run from City of Rocks (Idaho) to Honey Lake. However, the job went to John Kirk, an engineering contractor who lived in Placerville, California.²⁵ One year later, residents of Honey Lake were furious when Kirk submitted a report recommending that the terminus of this wagon road should be changed from Honey Lake to Carson Valley because it presented a more direct

²¹ Fairfield, *Fairfield's Pioneer History of Lassen County California*, p. 20.

²² William H. Nobles, *Speech of the Honorable Wm. H. Nobles, Together with Other Documents Relative to An Emigrant Route to California and Oregon Through Minnesota Territory*. Saint Paul: Olmsted & Brown, Territorial Printers, 1854), pp. 1-13.

²³ W. Turrentine Jackson, *Wagon Roads West: A Study of Federal Road Surveys and Construction in the Trans-Mississippi West, 1846-1869* (Berkeley: University of California Press, 1952), p. 175.

²⁴ U.S. Congress, Senate, *Reports of Explorations and Surveys, Ascertaining the Most Practicable Route for a Railroad from the Mississippi River to the Pacific Ocean, 1853-4*, Vol. 2, 33d Cong., 2d sess., Ex. Doc. No. 78, 1855, pp. 37, 42, 51.

²⁵ Jackson, *Wagon Roads West*, pp. 175-176.

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route across the Sierra Nevada to San Francisco.²⁶ Interest in the northern pass route steadily faded as anticipation of the first transcontinental railroad grew. In 1862, the Central Pacific Railroad began construction east of Sacramento, aiming to use Donner Pass and the Truckee River canyon route to cross the Sierra Nevada. The railroad eclipsed efforts to establish a national wagon road to California.

Despite the disappointment, Nobles Emigrant Trail was ultimately incorporated in the regional transportation network. By the late 1850s, as settlement of northern California increased rapidly and as migrants and stockmen increasingly moved east as well as west across the Sierras, the Emigrant Trail served as the primary route connecting Redding with Susanville. Branch routes from the Nobles Emigrant Trail extended up Hat Creek, toward Oregon. Carmen Shuler, descendent of Foot-of-the-Mountains station keepers George Frederick and Elizabeth Schuler, describes her families station located just west of the current park, near Emigrant Gap:

It was at "Foot of the Mountain Station" [built in 1858] that the freight teams and their drivers would stay for a week or ten days before starting their long hard climb over the mountains. Here the stock could rest and feed in the plentiful meadows before beginning their arduous ascent where food was scarce and the animals were often forced to browse for food. The heavily loaded freight wagons were drawn either by four or eight yoke of slow moving oxen, going on an average of only eight miles a day. The reason oxen were used was that they could go for a day or two without water, if necessary, whereas horses could not . . .

When the freight business was going full tilt six or eight wagons would come by at a time. It was safer for them to go in groups in case of Indian attacks. Also, if there were other trouble or breakdowns, they could help each other. So, during this time, freight wagons were coming and going all the time along the Emigrant Trail . . . They first stopped at Dersch's [Millcreek] ranch before resting at Foot of the Mountain Station. From there they continued to the Ogburn ranch, the Thatcher ranch, Shingletown, Lost Camp. The teams were sometimes fed there, then continued on to Hat Creek station, the second freight stopover. This stretch was called "going up through Emigrant Gap."²⁷

Stockmen

Stockmen came early to north central California, laying claim to the lowland valleys and hills of the northern Sacramento Valley by the late 1840s, when the Treaty of Guadalupe-Hidalgo removed political barriers to western settlement and the California gold rush created a captive and inflated market for "meat on the hoof."²⁸ In the decades following the Mexican-American War, hundreds of thousands of animals were trailed from established herds in New Mexico, Oregon, and the Colorado-Nebraska-Wyoming region, along historic overland trails, to the "new Eldorado." August to October 1857 ledgers maintained at Roops Fort in what is now Susanville, for example, recorded 16,937 cattle passing through the Honey Lake Valley, in company with 99 wagons; as did sheep, these cattle traveled along the established emigrant trails.²⁹

From the south, the greatest number traveled along the Gila and Spanish trails while those traveling from the northwest predominantly used the Oregon Trail. The "middle routes" led along the Mormon and California trails, through southern Idaho, along the Humboldt River, and across the high Sierras to the Sacramento Valley.³⁰ When in the

²⁶ Fairfield, *Fairfield's Pioneer History of Lassen County California*, p. 94.

²⁷ Carmen Shuler, "George Fredrick and Elizabeth Schuler and Early Days in Eastern Shasta County," *The Covered Wagon* (Redding: Shasta County Historical Society, 1962), pp. 26-27

²⁸ As the gold rush slowed and settlement increased, wool replaced mutton as the most valuable sheep commodity.

²⁹ Lyn Allen, *Lassen County: Cow Country* (Susanville: Lassen County Cattlemen's Association and Lassen County Cowbells, 1966), pp. 7-9.

³⁰ Edward Norris Wentworth, *America's Sheep Trails. History. Personalities* (Ames, Iowa: The Iowa State College Press, 1948), p. 165.

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1860s the West's gold camps shifted from the Sacramento Valley to Idaho, Nevada, and Montana, California ranchers were ready to herd their stock east, most often along this same middle route. Nobles route through Susanville and the Honey Lake Valley served as a primary thoroughfare to the mines and Susanville subsequently developed as a staging center and supply point. [See attached historic map for major regional landmarks.]

These journeys mirrored those of the emigrants not only in route traveled but also in daily routine and in dangers faced. Sheep and cattle required adequate feed and adequate water located at reasonably regular intervals; distance traveled was determined not only by the stamina of the animals (5-10 miles a day was a rough average), but also by the location of grass meadows and sweet-water sources. Preferred routes presented a minimum of geographic obstacles while forming as direct a line as practicable between the home ranch and summer range or the home ranch and market. And, as with the case of the emigrant trains, Native American groups, protecting their land and its natural resources, often responded aggressively to stockmen's passage.³¹

Context: Extractive Industry and Permanent Settlement in the Lassen Region

Extractive industry and permanent settlement in the Lassen region represented a brief if intense period of land use, ultimately curtailed by limits to the growing season, to marketable minerals, and to access. By these limits, however, and the lack of subsequent modern development, vestiges of settlement and extractive industry stand as a snapshot of the 19th- and 20th-century West and contribute to our understanding of the advancement of Euroamerican interests, the resultant impact on native culture, and the history of resource extraction and conservation. Though the period of significance for this context extends from ca. 1848 to ca. 1916, extractive use on private holdings located within the park boundaries may have continued until the time of sale/federal acquisition or to the end of the historic period. Subthemes include logging, mining, hydroelectric development, and ranching.

In 1910, M.E. Dittmar of the Shasta County Board of Supervisors, in cooperation with *Sunset Magazine's* Homeseeker's Bureau, published a primer on "California's lands for wealth." Speaking to manufacturers, mine operators, lumberman, horticulturalists, and agriculturalists, Dittmar wrote:

To the unaccustomed, the rugged landscape may lack appealing force from the viewpoint of commercial value, but to the accustomed it spells diversity. Here you have the varied products of an empire within the broader confines of a county. The range in altitude from the valley floor, approximately five hundred feet above the level of the sea, to the summit of Mount Lassen (10,577 feet) is equivalent to a climatic range from the frontier of Mexico to central Canada. In a distance of fifty miles you run the gamut from palm to pine.³²

Or, Dittmar continued, the gamut from citrus orchard and vineyard in the valley bottoms to apple orchard and alfalfa field in the uplands to lush summer range and giant sugar pine "above the apple altitudes" in the shadow of Lassen Peak.³³ To the east of Lassen Peak, residents claimed less geographic diversity but equal wealth of resources, with soil so fertile, trees so big, and grass so high the region earned the rubric "Land of the Never Sweats," a place of ease (some said indolence) where wealth came easy.

³¹ Morgan, *Jedediah Smith and the Opening of the West*, pp. 83-85, 91-92; Hutchison and Jones, editors, *Emigrant Trails of Southern Idaho*, p. 3; Edward Norris Wentworth, *America's Sheep Trails: History; Personalities* (Ames, Iowa: The Iowa State College Press, 1948), p. 167.

³² M. E. Dittmar, *Shasta County California*. *Sunset Magazine Homeseekers' Bureau for the Board of Supervisors, Shasta County, California* (on file at LAVO), no date (ca. 1910), p. 5.

³³ Dittmar, *Shasta County California*, pp. 5-7.

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Dittmar's boosterism was characteristic of an era when business leaders unflinchingly congratulated themselves on the changes wrought by free enterprise and resource exploitation. Dittmar and his ilk were apostles of the nineteenth-century creed of progress and in California in 1910 the evidence of progress was as overwhelming as anywhere. In historian Richard White's phrase, these old pioneers looked back on their achievement and saw a "simple story... 'savagery' subdued, wilderness conquered, civilization planted, wealth created, progress insured." They saw themselves inhabiting a world of dramatic possibilities, and did not view the social and environmental costs of their actions in the way we look at them today.

At the heart of these westerners' creed was the insistence that private property was the means to creating a prosperous society. Land, timber, minerals, water – virtually all natural resources – must be made available to private ownership in order to achieve progress. In her seminal work, *The Legacy of Conquest*, historian Patricia Limerick argued the importance of this creed in Western history. "White Americans saw the acquisition of property as a cultural imperative, manifestly the right way to go about things," she wrote. "There was one appropriate way to treat land—divide it, distribute it, register it."³⁴ In the second half of the nineteenth century, white Americans transformed northern California in their restless search for mineral, timber, and agricultural wealth.

Land Acquisition

Unlike other regions of California, the area of what is now Lassen Volcanic National Park was not subject to Spanish Land Grants. (The closest, those awarded to Lassen and Reading, were located some miles to the south and west.) Rather than conveyed in large volumes to a privileged few, the land remained public domain, subject first to open-range ranching and later claimed under the terms of the Homestead Act of 1862 (as amended); the Timber and Stone Act of 1878 (as amended); and the Forest Homestead Act of 1906.

In 1862 Congress passed the Homestead Act, a land act quickly hailed by supporters as "one of the most beneficent and vital reforms ever attempted in any age or clime – a reform calculated to diminish sensibly the number of paupers and idlers and increase the proportion of working, independent, self-subsisting farmers in the land evermore."³⁵ The act was as quickly denounced by detractors as "bring[ing] in upon us a vile horde of the most worthless class of emigrants."³⁶ This controversial and seminal legislation promised 160 acres of public land to those heads of families, 21-years of age and older who were, or who intended to become, US citizens. Within six months of paying their \$10 filing fee, settlers were required to live on the land; thenceforth, they were required to inhabit the site, in a cabin no smaller than 12' x 16', for at least seven months of every year. The remaining five months could be spent off the land – and often were, as men and women returned to lower elevations, schools, and wage labor. After a minimum of five years of seasonal habitation (and a maximum of seven) and upon proof of cultivation, the United States of America conveyed legal title to the homesteader.³⁷

In contrast to much of the timbered areas of the South, Great Lakes States, and Pacific Northwest, California timberlands were never open to unrestricted entry or cash sale. Speculators in timber had to find alternative means of acquisition. Historian Paul Gates writes that these alternative means were generally fraudulent: "the only way to acquire large tracts of timberland in those areas was to abuse the settlement laws."³⁸ Through the 1860s, lumbermen cut trees

³⁴ Patricia Nelson Limerick, *The Legacy of Conquest: The Unbroken Past of the American West* (New York: W.W. Norton and Company, 1987), p. 55.

³⁵ Horace Greeley quoted in Roy M. Robbins, *Our Landed Heritage. The Public Domain 1776-1936* (Lincoln: University of Nebraska Press, 1962), p. 206.

³⁶ Cyrus Woodman quoted in Paul Gates, *History of Public Land Law Development* (Washington, D.C.: Zenger Publishing Company [for the Public Land Law Review Commission], 1968), p. 392 fn.

³⁷ Gates, *History of Public Land Law Development*, p. 394.

³⁸ Gates, *History of Public Land Law Development*, p. 418.

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from public domain without permit or fee; filed preemption claims; or claimed the land under a host of other public-land laws. (Companies frequently hired individuals to file preemption or homestead act claims that were then sold to timber companies for a fraction of the profit to be realized by timber harvest.) In 1874, members of the federal Public Land Commission visited the redwood country of northern California and reported

little huts or kennels built of 'shakes' that were totally unfit for human habitation, and always had been, which were the sole improvements made under the homestead and pre-emption laws, and by means of which large areas of red-wood forests, possessing great value, had been taken under pretenses of settlement and cultivation which were the purest fictions, never having any real existence in fact."³⁹

That same year, Land Commissioner Burdett extended the indictment to pine and fir forests (as found in the Lassen region), arguing that this land should no longer be subjected to homestead and preemption but instead should be appraised and proclaimed for sale at not less than appraised value.

Congress responded in 1878 with passage of the Timber Cutting Act and the Timber and Stone Act. Of this legislation, historian Roy Robbins writes, "for the first time in the history of the public domain, a person could now legally buy timber."⁴⁰ The Timber Cutting Act allowed settlers and mining interests to cut timber on the public domain for their own use (non commercial) without charge. The Timber and Stone Act, extended to the states and territories of California, Oregon, Nevada, and Washington, provided for the sale of no more than 160 acres of surveyed lands, valuable chiefly for timber and stone and unsuitable for cultivation. Both acts were framed to benefit permanent settlers by providing timber for fuel, fencing and building.

Despite their intended purpose, the Timber and Stone Act and the Timber Cutting Act did little to slow – many argue they encouraged – speculative claims, liquidation of timber assets, and the concentration of large acreage in a few hands. In 1902, following a study of claims made in three Oregon and Washington Counties, the Public Lands Commission reported that 50% of the entries were transferred to timber and milling companies at prices as high in some instances as \$3,000 for a quarter section.⁴¹

In 1902, the federal government temporarily withdrew public lands in the Lassen Peak region from public entry under the various homestead laws. Timber harvest on the lower elevation lands surrounding the peak, however, continued, albeit under federal management guidelines. Federal management was made permanent in 1905 with designation of the Lassen Forest Reserve, incorporating all of the land now included in the national park. On June 11, 1906, Congress enacted the Forest Homestead Act, which allowed citizens to claim homesteads on national forest lands wherever they had agricultural value.

The Federal Presence: USFS regulation of Mining, Lumbering, and Ranching on the Lassen Forest Reserve

For almost a century, the Lassen Peak region has been managed as federal reserved land. Federal protection of the lands around Lassen Peak came in stages: first, a temporary withdrawal of unclaimed lands from public entry under the various homestead laws in 1902; then, proclamation of a forest reserve in 1905; later, the creation of two national monuments in 1907; and finally, the establishment of Lassen Volcanic National Park on August 9, 1916. These developments occurred within the context of the rise of conservation in the 1890s and 1900s. By turns, the reserved lands were administered by the U.S. General Land Office, the U.S. Forest Service, and the National Park Service. These federal agencies each put their own administrative footprint on the landscape.

³⁹ Quoted in Gates, *History of Public Land Law Development*, p. 418.

⁴⁰ Roy M. Robbins, *Our Landed Heritage. The Public Domain 1776-1936* (Lincoln: University of Nebraska Press, 1962), p. 287.

⁴¹ Cited in Gates, *History of Public Land Law*, p. 489.

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The conservation movement constituted a check on the longstanding goal of federal land policy in the West to convert public domain into private property as rapidly and equitably as possible. Through the Homestead Act and other land laws, the federal government sought to establish the 160-acre homestead or family farm as the leading institution of western settlement. In practice, however, much of the public domain passed into the control of sheep, cattle, and timber "barons." The conservation movement was in part a democratic or anti-monopoly movement to reverse this alarming trend. It was also, in part, a reflection of the managerial revolution that was transforming much of American society in the late nineteenth and early twentieth centuries. Conservationists put forward the idea that certain lands ought to be held in the public trust and managed by the federal government for the public good and they argued that federal land management agencies such as the Forest Service would coalesce enlightened public policy and scientific knowledge. The result would be a more efficient conservation and development of natural resources leading to a stronger, more prosperous national economy.

Forester A. F. Potter produced a report on the proposed Lassen Peak Forest Reserve in 1904. He stressed the importance of the forest in protecting the watersheds above the North Fork of the Feather River and the Upper Sacramento River. He noted the frequent occurrence of forest fires caused by careless stockmen and lumbermen and reported that the chaparral that tended to take hold in the burned areas did not protect the watershed as well as the forest canopy. Potter concluded that the protection of the forest was "the only way to assure the continued care necessary to utilize the forest products without serious injury to the permanent productive power of the soil."⁴²

On June 2, 1905, President Theodore Roosevelt proclaimed the Lassen Peak Forest Reserve.⁴³ The reservation centered on Lassen Peak and the area that would later become a national park. It included lands to the north down Hat Creek in Shasta County, lands to the east along Pine and Susan creeks in Lassen County, lands to the south and west in Plumas and Tehama counties, and encompassed the communities of Old Station, Hat Creek, Mineral, and Mill Creek. Susanville lay beyond the forest boundary to the east, Butte Meadows adjoined the forest reserve on the south, and the town of Viola was just outside the forest reserve to the west. Big Meadows, with its many privately held ranches, was also excluded from the Lassen Peak Forest Reserve.

Transportation Improvements

Regional transportation improvements eased human passage to these land, timber, and mining claims and the transport of goods to market. The gold camps created a demand for improved wagon roads, mail and freight service, and stagecoach lines.⁴⁴ Wagon road construction began in the mid-1850s, financed by a combination of private and public funds. In 1857, the state legislature passed an Act "To provide for the construction of a wagon road from Oroville, Butte county, to and intersecting at the most practicable point the line of the proposed National Wagon Road that has its terminus at or near Honey lake, Plumas county." The two counties were each to issue \$20,000 bonds if voters approved. The purpose of the road was to deflect commerce south of the Nobles Road and the town of Redding. The people in both counties voted down the measure, however, and the project was abandoned. In 1863, the state legislature granted a franchise to John Bidwell and associates to build a toll road from Chico to Honey Lake, a route that traversed the mountains south of Lassen Peak and provided access to the new mines developing in Idaho. Bidwell's outfit completed the road the following year.⁴⁵

⁴² Quoted in Douglas H. Strong, *Footprints in Time. A History of Lassen Volcanic National Park* (Lassen Loomis Museum Association in cooperation with the National Park Service, 1998), p. 32.

⁴³ 34 Stat. 3063.

⁴⁴ Rodman W. Paul, *Mining Frontiers of the Far West* (New York: Histories of the American Frontier Series, 1963), p. 21.

⁴⁵ Fariss & Smith. *Illustrated History of Plumas, Lassen & Sierra Counties with California from 1513 to 1850* (San Francisco: Fariss & Smith, 1882). Reproduction with Introduction by W. H. Hutchinson (Berkeley: Howell-North Books, 1971), pp. 235-237.

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North of Lassen Peak, Samuel Lockhart built a wagon road in 1855-56 that branched off the Nobles Emigrant Trail near Manzanita Lake. Lockhart's road roughly followed the present highway route to Old Station and northward. Lockhart sought to divert commerce northward to Yreka by way of his ferry crossing on the Pit River. His wagon road bypassed the old emigrant route through Cinder Cone, Hat Creek, and over Nobles Pass.⁴⁶

By 1863, the Tehama County Wagon road (a toll road) between Susanville and Red Bluff by way of Battle Creek Meadows, had been constructed, roughly along the course of its predecessor the Lassen Trail and of its most recent reincarnation, State Route 36. The Chico and Humboldt Wagon Road, constructed in 1865, extended from Chico, through Prattville (near Chester) and Big Meadows, to Susanville. Both wagon roads connected with the primary emigrant routes across southern Idaho and northern Nevada. The Lockhart Road, or Red Bluff to Oregon Stage Route, connected the Lassen region with Redding and Yreka. The Nobles Emigrant Trail remained open as a wagon road, connecting Susanville with Old Station and the Oregon Stage Route.⁴⁷

Within the boundaries of what would become Lassen Volcanic National Park, the early transportation network included not only the "Emigrant Road to Susanville" (along Nobles Trail), but also wagon roads extending south from Nobles Trail along Hat Creek, leading to the Dersch cabins and corrals within Section 33, T31N R5E and extending north from the emigrant trail toward Lost Camp in the Lost Creek drainage; and the Supan wagon road extending from the Tehama toll road to the Supan sulphur claim.⁴⁸

Railroads, both private single-gauge branch lines penetrating to the steep extremes of the forests, and also the transcontinental lines carrying freight to market, proved of most note to those bent on prosperity and natural-resource extraction. In 1863, the California legislature encouraged survey and development of a rail line connecting the Sacramento Valley at Marysville with Portland, Oregon. By July 1872, the Central Pacific had completed the line between Marysville and Redding, along the Sacramento Region and just west of the Lassen Region. The terminus remained in Redding for 12 years until 1885, the Central Pacific hesitant to invest in the difficult construction required through the Sacramento River Canyon and the Siskiyou mountains north to the southern terminus of the Oregon & California Railroad in Ashland. Finally, in 1884, the Central Pacific, newly operated and controlled by the Southern Pacific Company and anticipating acquisition of the Oregon & California Rail Road Company, resumed construction, reaching Ashland in 1887. Those marketing the Lassen region's natural resources therefore had rail access to markets north and south, connecting to the east

Mining

By 1900, mineral maps of California showed what prospectors had learned the hard way: the immediate vicinity of Lassen Peak is largely void of copper, gold, or silver despite the rich concentrations to the north, south, and west (see Geological Studies, below). The '49ers flocked to the American River, well south of Lassen, and other streams flowing down the west slope of the Sierra Nevada. Here could be found placer deposits, gold nuggets and flakes that had been eroded out of gold-bearing ore and washed downstream until they came to rest deep inside sandbars and creekbeds. The continuous belt of gold-bearing ore that ran down the north-central portion of the Sierra Nevada was called the Mother Lode. Miners referred more loosely to the "Mother Lode country," an area that included not only the mineralized rock

⁴⁶ W. H. Colby, *A Century of Transportation in Shasta County, 1821-1920* (Association for Northern California Records and Research, Occasional Publication Number 7, 1982). On file at Chico State University, Meriam Library, Special Collections, p. 31; Douglas H. Strong, *Footprints in Time. A History of Lassen Volcanic National Park*. (Lassen Loomis Museum Association in cooperation with the National Park Service, 1998), p. 15.

⁴⁷ Douglas Hillman Strong, *These Happy Grounds. A History of the Lassen Region* (National Park Service and Loomis Museum Association, 1973), pp. 17-18; Pacific SW Region Selected Historical Files, 1906-59, NRHS 95-97-004, RG 95 San Bruno, passim.

⁴⁸ George Sandow, surveyor, Surveyor General's Office, USGS Department of the Interior, map of T31N R4E; T31N R5E; T30N R4E; T30N R5E, 1881-1883.

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itself but also downstream placer deposits. By the end of 1849, prospectors had struck gold placers from the Mariposa River in the south to the Feather River in the north. They spoke of the "northern mines" and the "southern mines," with the former falling within the Sacramento River basin and the latter falling within the San Joaquin River basin. Further gold discoveries were made in northern California in 1850 around Mt. Shasta and on the Klamath and Trinity rivers. Although these were not part of the Mother Lode country, they were sometimes lumped with the "northern mines."⁴⁹

By 1860, many of California's rich placers were played out. The simple techniques used for washing gold in the early gold rush days had given way to more aggressive techniques aimed at recovering gold that lay deep within ancient gravel deposits, or that occurred in finer concentrations. These techniques required more technology, organization, and capital. A still more expensive method of gold mining was to dig it out of solid rock. Involving the laborious excavation of tunnels into the earth along "veins" or lodes of gold-bearing ore, this technique was called quartz or lode mining. Although lode mining would eventually sustain California's gold production through the latter part of the century, it began in the 1850s by fits and starts. Mining companies had to develop techniques for tunneling, pulverizing the ore, and separating the gold from other minerals. "The first enterprises failed in a general wave of bankruptcy in 1852-53," historian Rodman W. Paul has written.

Most of those who had been interested abandoned the field entirely, and the few survivors spent the next half-dozen years in learning painfully, by trial and error, how to trace a vein, sink a shaft, break loose the ore, hoist it to the surface, crush it, and extract the gold from the resultant mass of ground-up material.⁵⁰

Further population movements accompanied this difficult transition in mining. The army of independent gold seekers practically disbanded. Many went home – traveling east rather than west along the same trails that had carried them to California – while others pursued other lines of work in California or proceeded to other new gold strikes in Idaho, Montana, Nevada, and elsewhere.

Though void of gold, copper, or silver, the Lassen region is rich in water and in sulfur. Both were "mined," albeit at small scale, at the turn of the century.

Supan's Sulphur Works

Prospectors had no difficulty discovering the sulfur deposits located on Sulphur Creek and Bumpass Creek on the south-facing slope of Lassen Peak. The area features numerous hot springs, fumeroles, and steam vents, and the odor of hydrogen sulfide is strong. The outcroppings of lava rock surrounding the hot springs and fumeroles are bleached white. The main vent is located a quarter mile to the north, up a steep ridge, in a small crater of approximately 10 to 15 feet diameter. Steam gushes from this vent, and crystalline deposits of yellow sulfur have formed over the immediate area around it.⁵¹

In September 1865, the *Red Bluff Independent* reported that one T. M. Boardman and unidentified partners had made arrangements with Dr. Mathias B. Supan of Red Bluff to develop the sulfur deposit into a working mine. Supan, a medical doctor and chemist, apparently had a plan for refining the sulfur ore. The *Red Bluff Independent* stated, "We may expect in a short time that Red Bluff will be shipping sulfur to the San Francisco market."⁵²

Sulfur occurs in a variety of geologic contexts and is used for a variety of purposes. Free sulfur is found in and near volcanoes and is produced by the venting of steam laden with hydrogen sulfides. Such steam vents are called "solfataras," and the deposition of sulfide deposits around these vents may be referred to as "solfataric action." Such

⁴⁹ Bean, *California: An Interpretive History*, pp. 117-119.

⁵⁰ Paul, *Mining Frontiers of the Far West, 1848-1880*, p. 31.

⁵¹ Charles Volney Averill, "Mineral Resources of Shasta County," *California Journal of Mines and Geology*, Vol. 35, No. 1 (January 1939), p. 173.

⁵² Paul E. Schulz, *Stories of Lassen's Place Names* (Lassen Volcanic National Park, Mineral, California, 1949), p. 55.

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small, surface deposits were discovered and mined in ancient times and the sulfur was used as a disinfectant, a medicinal, and for cleaning wool. It was also used in primitive torches, hence its popular name "brimstone." Industrialization gradually created a demand for sulfur in much greater quantities, and led to the mining and refining of sulfur ore. The great sulfur ore deposits of the world are not of volcanic origin but occur in sedimentary beds where the sulfur is associated with gypsum and limestone. In these beds the sulfur is formed from the alteration of gypsum by bacteria, organic matter, and reactions of limestone with hydrogen sulfide generated from the gypsum. As late as the end of the nineteenth century, Sicily supplied most of the world's sulfur. Beginning in the early twentieth century, large sulfur deposits along the Gulf Coast of Louisiana were developed. United States production from this source eventually surpassed that of Sicily. Smaller sulfur ore deposits contributed lesser quantities on a local level to the world supply. In California, modest tonnages of sulfur were produced from sulfur ore deposits in Inyo, Imperial, and Alpine counties. By the middle of the twentieth century, three-quarters of all sulfur consumed in the United States was converted to sulfuric acid for use in various industrial processes. Sulfur was also used for insecticides, paper manufacture, rubber compounding, and fertilizers.⁵³ "The first sulfur production in California was from the Sulphur Bank mine, Lake County, during the period 1865-68," wrote James W. Vernon. "Sulfur was not produced again until 1923-24, when 185 tons came from one property in Kern County."⁵⁴

Supan's Sulphur Works, as the mine property came to be known, belonged to that part of the sulfur mining industry that exploited small solfataric deposits for local use. Although Supan probably began extracting limited quantities of sulfur soon after he acquired the property in 1865, the production was negligible. By the late 1920s, the property was in active use as a hot springs resort, with business bolstered by the site's direct proximity to the newly-constructed Lassen Park Highway (NPS Route 1).

Supan apparently worked his claim each summer for about twenty years, hauling the material by pack train to a furnace and retort on Paynes Creek. He used his knowledge of chemistry and medicine to experiment with various products that he dispensed in his drug store in Red Bluff. Cooking the sulfur in kilns, he made bricks and various kinds of earthenware products. Using the ferrous salts that formed a crust at the edge of the hot springs, he produced dyes and printers' ink, which he sold in San Francisco.⁵⁵

Supan's Sulphur Works were not the only solfataric deposits on the slopes of Lassen Peak to attract prospectors. One mile east of Little Hot Springs Valley is the geothermal area known as Bumpass Hell, containing a variety of steam vents, solfataras, mud pots, and hot springs. The area was named for Kendell Vanhook Bumpass, "an old and experienced mountaineer" who served as a guide for the *Red Bluff Independent* editor Watson Chalmers and his companions in 1865. It is not known who prospected the sulfur deposits in this area. When the General Land Office surveyed it in the early 1880s, the surveyor recorded a "mining shaft 20 ft. deep (abandoned)" at the site, which he labeled "Bumber's Hell, Boiling Sulphur Spring."⁵⁶

⁵³ William Haynes, *The Stone that Burns: The Story of the American Sulphur Industry* (D. Van Nostrand Co., Inc., New York, 1942), pp. 71-79; James W. Vernon, "Sulfur," in *Mineral Commodities of California*, Bulletin 156 (California Division of Mines, San Francisco, 1950), pp. 273-275.

⁵⁴ Vernon, "Sulfur," p. 274.

⁵⁵ Douglas H. Strong, "Supan's Sulphur Works," *The Covered Wagon* (Shasta Historical Society, Redding, 1973), pp. 28-29. Little is known about Supan's process of refining. The common method of treating sulfur ore during this period was to place the ore in a kiln or "calcarone." The calcarone was a dome-shaped oven built over a circular pit with a sloping bottom that drained into a ditch. The ore was slowly fired and the liquid sulfur ran out into the ditch. Calcarones were generally about 35 feet in diameter and 8 feet deep, and rose about 10 feet above the ground. About 1880, the Gill furnace came into use and gradually replaced the calcarone process. The Gill furnace featured two connected cells, with the super-heated product from the first cell being used to ignite the fresh charge of ore in the second cell, and reverse, so that the device could be in nearly continual production. Gill furnaces eventually were built with five or six chambers. Haynes, *The Stone that Burns*, pp. 75-76.

⁵⁶ "Township No. 30 North, Range No. 4 East, Mount Diablo Meridian," General Land Office Plat, 1884.

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The Dutch Hill Mine

The Dutch Hill gold mine was located approximately six miles south of Big Meadows, well beyond the park boundaries. Its development is related to Lassen Volcanic National Park not for the gold extracted but for the water used. The mine apparently dated from the mid-1850s, although it was not recorded on county tax assessor rolls until 1865-1869.⁵⁷ The gold deposits in the vicinity of the Dutch Hill Mine consisted of gold-bearing gravels laid down in ancient water courses and buried under layers of sediment. The North Fork of the Feather River had cut a canyon through this formation, which lay about 1000 feet above the river.⁵⁸ In typical fashion, independent miners had opened the deposit through years of laborious drift mining but lacked sufficient resources to make these mines a big concern. In 1873, a group of Sacramento capitalists formed the North Fork Mining Company and consolidated ownership of these workings. The company prepared to invest a large part of its financial resources in construction of a long ditch and flume running from the Lassen Peak area in order to furnish water for hydraulic mining.⁵⁹

The company surveyed possible routes for a ditch and decided on a plan that would tap water from Rice Creek on the south side of Lassen Peak. The ditch would be some 33 miles long and would come down the south side of a ridge dividing Butte Creek and Big Meadows. The main difficulty was getting to the south side of the ridge, which required a tunnel 1,150 feet long. The company contracted for construction of the tunnel at eight dollars per foot. The work was described in Raymond W. Rossiter's annual report to the U.S. Commissioner of Mining Statistics for 1875:

To finish the work within the time specified, it was necessary to sink two shafts on the line of the tunnel, thus affording a chance for six gangs of men to work at the same time, one set of men at each end and two sets in each shaft, working in opposite directions. Even with this force it required the best management on the part of the contractor to finish 1,150 feet within the prescribed time. The tunnel is now completed. It is 6 1/2 feet in height, 5 feet wide, has a grade from one end to the other of 40 inches, and is capable of carrying all the waters of Rice Creek in ordinary seasons.⁶⁰

The flow of Rice Creek was disappointingly low in the summer of 1875, its first season of operation. Company president C. W. Reed and surveyor Arthur W. Keddie searched for a way to augment the water supply in Rice Creek. Eleven miles above the start of the ditch at Wilson Lake, they discovered that the water in Kings Creek could be diverted into the headwaters of Rice Creek by way of Crumbaugh Lake. The additional short section of ditch, one and a half miles in length, was constructed in 1875. This disconnected portion of the Dutch Hill Mine ditch was located within the present boundaries of Lassen Volcanic National Park. Local historian Gene Serr researched Plumas County Mining and Water Claims records and found that Reed and Keddie filed a claim for a water right on July 15, 1875 for 800 miners inches from two sites, Kings Creek and a branch of Kings Creek. They recorded their intention to "turn this stream into Rice Creek by means of a ditch 4 feet wide on top, 2 1/2 feet on the bottom, and 1 1/2 feet deep."

According to Serr's research and field work, the ditch as constructed had three diversion points: one at Kings Creek, a second below the main spring about a tenth of a mile to the north, and a third below another spring about 100 yards farther north. Chinese laborers working under Chinese contractor Ah Shune of Silver Creek built the main ditch below Wilson Lake in 1874 and probably constructed this short ditch the following summer as well. In the spring of 1876, the company had to shovel snow to get the ditch in operation. The *Plumas National* reported in May, "The water is not yet

⁵⁷ Scott Lawson to Gene Serr, February 4, 1991, Plumas County Museum Archives, Dutch Hill Mine File.

⁵⁸ Errol Mac Boyle, *Mines and Mineral Resources of Plumas County* (California State Printing Office, Sacramento, 1920), p. 3.

⁵⁹ Gene Serr, "The Mining Ditch in Lassen Park," unpublished paper in Plumas County Museum Archives, Dutch Hill Mine File.

⁶⁰ Raymond W. Rossiter, "Statistics of Mines and Mining in the States and Territories West of the Rocky Mountains," in U.S. Commissioner of Mining Statistics, *Seventh Annual Report*, Government Printing Office, Washington, 1875, p. 159.

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through the big pipe, but a force of men are at work on the ditch above the pipe and are drawing it along as fast as possible. Progress is necessarily slow owing to the vast quantities of snow in the vicinity of Lassen's Butte."⁶¹

For a few years, the Dutch Hill Mine supported the community of Dutch Hill, in Plumas County. A post office was established in 1875. Other companies operating in the area were the Caribou Hydraulic Mining Co., A. Cummings and Co., Bamboo Co., Waggoner and Co., and Bryan and Co. The name Dutch Hill probably derived from a corruption of "Deutsch" or German. Some of the early miners' names at Dutch Hill were German: Wagonner, Zeuring, Meckling. Most of the names were English: Bly, Benham, Barker, Bryan, Cummings.⁶²

Public sentiment against hydraulic mining mounted during the late 1870s and early 1880s. In 1884, the California legislature passed the Anti-Debris Act, which required mining companies to contain the debris resulting from hydraulic mining operations. Since this was virtually impossible, the law effectively prohibited hydraulic mining. However, enforcement of the law remained ineffective in remote areas such as the North Fork of the Feather River for a few years. Official reports listed the Dutch Hill Mine as a hydraulic mine in 1888 and a drift mine in 1894. Apparently the hydraulic operations were curtailed around 1890.⁶³

The North Fork Mining Company shut down the Dutch Hill Mine and eventually sold it to Savercool Brothers, a company based in the nearby town of Seneca. The new owners operated the mine intermittently for many years. In 1937, Savercool Brothers reported that the main adit had been extended to 1900 feet, and two men were at work. Soon thereafter the mine closed permanently.

Hydroelectric Development near Manzanita Lake

In 1902, Joseph A. Rossi claimed water rights on Hat and Lost creeks with a view toward increasing the water supply to a powerhouse he had at a lower elevation on Snow Creek, a tributary of New Creek. Two years later, Rossi formed the Shasta Power Company with mining engineer Harry Shannon and started construction of a ditch and flume. The work was completed in three years by a crew of 80 Italian laborers. The so-called Sunflower Flume and Canal began at the intake on Lost Creek below Summit Lake, skirted below Sunflower Flat and the east side of Nobles Pass, and traversed the east slope of Table Mountain before going west. The flume was briefly operational around 1908. It was acquired by the Northern Power & Light Company, which then formed the Sacramento Valley Power Company. This company was purchased in turn by the Northern California Power Company.⁶⁴

H. H. Noble, a San Francisco capitalist, began to develop hydroelectric power for Shasta County's mining industry when he formed the Keswick Electric Power Company in 1900. After the Keswick Electric Power Company completed its first powerhouse at Volta in 1901, the company changed its name to Northern California Power Company and began to consolidate with other small power companies in the region. In 1906, Noble, who was president of the Northern California Power Company, purchased 280 acres and water rights to Manzanita Lake from homesteader Albert Smith.⁶⁵

In the same year that Noble acquired water rights at Manzanita Lake, he launched a program to develop a process for smelting iron ore using electrical energy. Over the next seven years, the company developed a furnace for this purpose. The furnace was thirteen feet wide by twenty-eight feet long. Within the furnace an electrical charge was applied to the

⁶¹ Quoted in Gene Serr, "The Mining Ditch in Lassen Park," unpublished paper, Plumas County Museum Archives, Dutch Hill Mine File.

⁶² Gene Serr, "The Dutch Hill Ditch," Plumas County Museum Archives, Dutch Hill Mine File.

⁶³ Gene Serr, "The Dutch Hill Ditch," Plumas County Museum Archives, Dutch Hill Mine File.

⁶⁴ Strong, *Footprints in Time: A History of Lassen Volcanic National Park*, p. 31; G. R. Milford, interview by L. E. Bronson and P. E. Schulz, February 8, 1955, Association for Northern California Records and Research and California State University, Chico, Oral History Program.

⁶⁵ Strong, *Footprints in Time: A History of Lassen Volcanic National Park*, p. 30.

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superheated ore and the molten metal was tapped off at regular intervals. The key to this process was cheap electrical energy supplied by water power.⁶⁶ Manzanita Creek was one of many sites that the Northern California Power Company sought to develop for hydroelectric power. Other sites near Lassen Peak included a dam at the head of Battle Creek and a dam lower on Battle Creek at McCumber Flat.⁶⁷

In an effort to augment the flow of water in Manzanita Creek, the Northern California Power Company first cleared brush and debris from the creekbed. It then developed a plan to dam the outlet of Manzanita Lake and create a reservoir for its power plant at Volta. The plan called for an earthen dam 500 feet across, 10 feet high, and 8 feet thick at the top, with timber riprap on the inside slope. When the company began construction in 1911, the lake level rose only two feet. It was decided that the volcanic rock in the area was too porous to hold water, and the project was abandoned. In 1915, a volcanic eruption of Lassen Peak precipitated a mudflow that descended Hat and Lost creeks and destroyed the intake to the flume on Lost Creek. The Northern California Power Company, which now owned the flume, chose to abandon this structure as well.⁶⁸

Lumbering in the Lassen Region

If California timber proved less tantalizing than gold in the early years of white settlement, it was not for lack of notice but for lack of capital and of market. Immigrants consistently echoed Abraham Cunningham's description of northern California ("from Manton to Whitmore, from Inwood to the base of the High Sierras") as home to a "forest primeval, the greatest stand of pine and sugar pine that the world has ever known."⁶⁹ This forest offered an estimated 40,000 to 60,000 feet of lumber per acre, 10 fold the volume that had proved profitable in less remote, more easily accessed regions of the West.⁷⁰ Harvest of this timber followed a predictable pattern, with small-scale local use of the most-easily accessible timber defining the industry in the early years, evolving to consolidated land ownership and extensive capital development as harvest volumes increased and as the range of operation increased in response to the demands of larger, more-distant markets.⁷¹

Shake Making

Shakes proved the universal material for roof construction throughout the region. They were easily produced – requiring only a cross-cut saw, hammer, a splitting foe, and the labor of two men. These two men were often miners, earning a winter grub stake for the coming temperate mining season, and their lifestyle was largely itinerant, defined by seasonal places and patterns of work and resulting in only scattered cultural remains. Prior to the advent of the Forest Service, independent woodcutters, known as "gippo" loggers, were accustomed to taking trees from government land without any real threat of arrest. On the Lassen, Plumas, and Diamond Mountain forests, this "timber trespass" mostly

⁶⁶ Dittmar, *Shasta County California*, pp. 45-46.

⁶⁷ Milford, interview.

⁶⁸ Strong, *Footprints in Time: A History of Lassen Volcanic National Park*, p. 30.

⁶⁹ Quoted in Dottie Smith, "The Historic Blue Ridge Flume of Shasta and Tehama Counties, California," *Gold and Lumber: Two Papers on Northern California History and Archaeology* (Sacramento: Bureau of Land Management Cultural Resources Publications, 1992), p. 8.

⁷⁰ Richard A. Colgan, "Forestry in the California Pine Region," an oral history interview conducted by Amelia R. Fry, Regional Oral History Office, The Bancroft Library, University of California, Berkeley, 1968, p. 62; Lee Peters, "Early Lumber Days," *Daily News*, March 3, 1973, p. 2, Vertical File: Lumbering, Tehama County Public Library, Red Bluff, California.

⁷¹ William C. Hodge, Jr., Assistant Forest Inspector, Forest Service, Forest Conditions in the Sierras, no date (ca. 1906), pp. 81-82. Pacific SW Region Selected Historical Files, 1906-59, NRHS 95-97-004, RG 95 San Bruno

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involved the cutting of sugar pine to make wood shakes. In 1907, Lassen National Forest ranger A. J. Barrett described a camp in the Feather River country as including a cache of 20,000 shakes, a tent, cook stove, cooking equipment, and a lot of miscellaneous tools.⁷² Gold miner Orrin Payne inhabited a similar camp in the winter of 1856-1857, located in an unidentified reach of northern California's forests. In letters home, Payne reported that California "has its failings and its disadvantages, and as for its inexhaustible mines of gold they are here but it is a hard job to get hold of much of it." Lacking sufficient gold for return fare east (and home), two disillusioned compatriots concluded they would "go to making shingles." Not knowing what else to do, Payne went with them. "We bought a lot of grub and provisions," he continued, "and built a cabin and have got moved into it and have got almost enough timber cut down to last us all winter and when we get to work I think we can earn from 2 dollars to 2 dollars and 25 cents a day when it does not rain." Rain proved common that winter, as did illness, and the men's profits proved dramatically lower than their hopes. Payne resigned himself to another season of mining, and a second winter of shake making.⁷³

Milling

The tie between the gold and embryonic timber industries was direct and symbiotic. Miners and the boom communities that grew around them⁷⁴ provided a ready and proximate market for timber until by the 1850s "mills sprang up in every settled corner of [Shasta] county" and shake camps dotted the timbered foothills of the Cascade Range east of Redding and Red Bluff.⁷⁵ Manuscript census for Shasta County, 1870-1890, for example, show a heavy concentration of lumbermen in the Shingletown enumeration district. Job descriptions as shown on the census varied from the generic (and most common) "lumbering," to "sawyer," to "sawmill laborer," to "teamster." In 1850, a Mr. Jonathon Otis registered the first sawmill in Shasta County (then including all of today's Lassen County); the mill only just met the definition, marking the site of a sawpit where two men labored with a straight cross cut saw to convert logs to boards. Other mills soon followed, concentrated in the nascent lumbering communities of Viola, Shingletown, and Mill Valley, northwest and southwest of today's Lassen Volcanic National Park in the heavily timbered relatively flat foothills of the southern Cascades. The 1852 Shasta County census shows eight mills. By 1860 there were 12, all concentrated near timber and near water – and as near the growing mining centers as those two primary considerations would allow. ("If you want to lose money," remembered a Shingletown lumberman, "log uphill or more than three miles from the mill."⁷⁶) These mills included the Klotz Sawmill and Sash and Door Factory, established a mile east of Shingletown, in the late 1850s.⁷⁷

⁷² L. A. Barrett, *Leaves from a Forest Ranger's Diary* (U.S. Department of Agriculture, Forest Service, Plumas National Forest, California), p. 37.

⁷³ Orrin S. Payne, "Letters to His Brothers 1854-1859," April 23, 1854, June 15, 1856, December 3, 1856, July 26, 1857 Manuscript Collection, Bancroft Library, University of California, Berkeley.

⁷⁴ The Euro-American population in California in the spring of 1848 was estimated at 2,000. By 1849, it had grown to 53,000. Finding the Sierra Nevada gold fields nearer Sutter's Mill overcrowded and played out, many of these men proceeded north to mines north and west of present-day Redding. Jeffrey Hamilton and Max Neri, "History and Prehistory of the Latour Demonstration State Forest, Shasta County, California (report prepared by North Coast Resource Management, in association with San Jose State University Department of Anthropology, for The California Department of Forestry and Fire Protection, 1997), p. 36.

⁷⁵ Shuford (1957), quoted in Smith, "The Historic Blue Ridge Flume of Shasta and Tehama Counties, California," p. 8.

⁷⁶ Vilus, quoted in Beulah Johnson, "Chips and Sawdust: A History of sawmills, the equipment they used, and the towns that built around them," 1978. On file at Shasta County Historical Society, Redding, California.

⁷⁷ Mrs. Henrietta Klotz Hall to James V. Lloyd, Superintendent Lassen Volcano National Park, January 28, 1946, File: History, LAVO Collection, Western Archeological and Conservation Center (WACC).

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Through the 1870s, the Klotz and other mills supplied timber primarily to gold mining communities and other local markets. With completion of the California & Oregon Railroad (connecting Sacramento with the Pacific Northwest), the Tehama County Wagon Road (aka the Red Bluff to Honey Lake Wagon Road), connecting Susanville and the Honey Lake Valley with the Sacramento Valley), and a system of V-shaped flumes (connecting the high-elevation mountain mills with road, rail, and river transportation), loggers and mill owners were able to expand to San Francisco and Central Valley markets. Large mills then operated on Digger Creek, Battle Creek, and Antelope Creek, near the boundaries of today's park.⁷⁸

Richard and Johanna Haynes mixed-use lumbering and agriculture operation was typical of the smaller-scale mills: The Haynes purchased a homestead on Hat Creek in 1884 (just north of today's park boundary), setting up house with high hopes and the milk cows that had served as Johanna's dowry. Their daughter remembered that "Mother milked them and took butter to Burney once a week and that paid the grocery bills." When her father was not "farming and clearing land" he ran a water-powered sawmill. The venture was a success: "he had plenty of good timbers" and plenty of customers who traveled in their freight wagons from Big Bend, Round Mountain, and Fall River Mills.⁷⁹

Means of Harvest, Transport, and Sale

Milled lumber was either purchased at mill sites, by those who arrived with their empty wagons and left with milled lumber, shingles, door frames and window sashes; or was freighted or flumed to the Sacramento River and to the California & Oregon Railroad and then hauled by barge or train to more-distant markets. Land transport from the mountain mills to the valley was most often accomplished on massive, heavily loaded wagons pulled by 12- to 16-horse (or mule) teams. Local roads and bridges were solidly built to accommodate these loads. Where roads provided impossible or impractical to build, flumes moved the lumber to the valley.⁸⁰

In Shasta and Tehama counties, by 1877, the Sierra Flume and Lumber Company operated over 156 miles of flume. Though none of these miles traversed what is now Lassen Volcanic National Park, one forty-mile flume served six Shingletown mills that processed timber harvested near future park lands. The flume began at the Eureka Mill on Battle Creek, approximately ten miles east of Shingletown, and extended southwest across Hay Flat, across Digger Creek, over South Battle Creek to the Sacramento River near its confluence with Ink Creek, where lumber was then barged to transcontinental rail lines in Sacramento. With the 1886 completion of the Southern Pacific tracks north, connecting California with the Pacific Northwest, this flume route was altered to terminate on the Sacramento River at Red Bluff. Here lumber was barged from the Sierra Lumber Company yard across the river to the Southern Pacific tracks.⁸¹

Shasta County lumbermen Thomas Thatcher reported that lateral flumes constructed by private mill owners joined with this main line: "as you went down, different mills joined with their flume and with their lumber and the flume was enlarged and enlarged."⁸² Standard construction specifications included 18" bottom width, 20" sloping sides, 42" top

⁷⁸ Douglas Hillman Strong, "These Happy Grounds. A History of the Lassen Region (National Park Service and Loomis Museum Association, 1973), p. 22.

⁷⁹ Bessie Haynes Bosworth, "The Story of Richard Haynes," *The Covered Wagon* (Redding: Shasta County Historical Society, 1966), pp. 46-48.

⁸⁰ No flumes are known to have been constructed within the boundaries of today's national park.

⁸¹ Suzanne Baker and Laurence H. Shoup, "An Historical and Archaeological Study of the M. A. Burns and Castle Crag Lumber Companies, Shasta-Trinity National Forest," December 19, 1979, p. 6. On file at Shasta College Library, Redding, California; James R. Corning, "Flume Poured Gold, Lumber from Sierras into North of State," July 1963, Vertical File: Lumbering, Red Bluff Public Library, Red Bluff, California.

⁸² Thomas Thatcher, interviewed by anonymous, ca. 1975. Transcript on file at Meriam Library Special Collections, California State University, Chico, California

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width. An elevation drop of 27' to the mile was considered ideal: less and the water slackened and the lumber jammed, more and they carried excessive speed and crashed through the flume sides. Flumes were built in 16' sections, called boxes, put in place after trestle work was completed. Drag boards were superimposed on the bottom of the flume and on the outside of curves to absorb the most intense impacts and to allow for replacement without interfering with the larger structural system. Narrow walkways ran the length of the flume, allowing flume tenders to check the course of the lumber and to complete repairs. These walkways extended between covered shelters (or doghouses) spaced at various intervals along the flume. These shelters housed a watchman who alerted workers along the line in the event of a log jam. In total, flume construction required an estimated 130,000 board feet of lumber per mile.⁸³

The flume was expensive not only to build but also to maintain. Moreover, operation proved cumbersome – lumber frequently jammed – and load limits were restricted. Sierra Flume and Lumber abandoned the system ca. 1889 when roads and railroads into the Shingletown area were sufficiently developed to render the flume obsolete. (Abandoned, the flume provided ready salvage lumber for area settlers: one mile of flume was said to provide sufficient lumber – complete with nails – for a family home.)⁸⁴

Trees were felled by two men pulling a cross cut or "misery whip" saw. Once felled, trees were limbed and bucked into pieces small enough to be hauled to the mill site (generally 10'-20'). If the mill was close, and slopes were steep, the log was skidded (by means of oxen and chain) to a chute constructed of peeled logs placed crosswise in a trough and "greased" so that the logs, still chained, could be more easily pulled to the mill. As harvest proceeded and lumbermen were compelled to venture farther into the woods, and farther from the mill, wagons were most-often used to transport the logs. Local historian Beulah Johnson describes the process:

These [wagons] were built by placing bunkers on a pair of axles. Solid wooden wheels were cut from a tree, some of them nearly a foot thick in the center. These were hewed to an eight inch outside rim. A strip of iron was fashioned into a tire. Wedges were driven into the wheel as it loosened. Logs were loaded onto the wagon with a cross haul, the chains fastened in a manner to allow the log to roll up some skids that were leaned against the side of the wagon. Oxen were used at the wheel because the oxen yoke took much of the punishment from the rigid tongue of the wagon.⁸⁵

Four inventions significantly altered this slow and laborious process: the steam donkey; big wheel; steam-powered tractor; and caterpillar. Each allowed harvest of timber at greater distances from the mill and reduced dependence upon animal power.

Logger John Dolbeer invented the steam donkey in 1881 and his invention found ready application in the Lassen region. Consisting simply of a large steam engine mounted on a wooden sled, the tractor used a pre-hung cable to winch itself and its load of timber through the forest. Several donkeys could be placed along a line in the forest and used to successively transport timber from remote areas -- a log bucket brigade. Improvements followed, including continuous loop cable systems and an altered gear system that provided more torque and therefore an increased haul capacity.

⁸³ "Red Bluff Woman Recalls Flume Days," *Daily News*, March 24, 1987, Vertical File: Lumbering, Tehama County Public Library, Red Bluff, California.

⁸⁴ "Flume Transport in Early Days," *Daily News*, Red Bluff, California, March 10, 1973, and "Red Bluff Woman Recalls Flume Days," *Daily News*, March 24, 1987, both in Vertical File: Lumbering, Tehama County Public Library, Red Bluff, California; Jeffrey Hamilton and Max Neri, "History and Prehistory of the Latour Demonstration State Forest, Shasta County, California (report prepared by North Coast Resource Management, in association with San Jose State University Department of Anthropology, for The California Department of Forestry and Fire Protection, 1997), p. 44.

⁸⁵ Johnson, "Chips and Sawdust."

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Despite these improvements, the steam donkey could be operated economically (with profits exceeding costs) only in densely timbered flat areas.⁸⁶

At the turn of the century, the McCloud Lumber Company introduced the "Big Wheel" to northern California. Large light-weight wheels, generally 15' tall, were linked by a large metal arch, which served as the axle. This rig was positioned over the front end of a log or several smaller logs. A long beam attached the axle to a team of horses or oxen. The forward motion of the team provided leverage, lifting one end of the log off the ground, reducing drag. In addition, unlike the steam donkey or traditional skid lines, Big Wheels could be used in rough country and on rough roads, increasing the range of terrain that could be economically harvested and reducing costs associated with haul-road construction.⁸⁷

In 1894, Best Tractor Company and the Holt Manufacturing Company produced a steam-powered tractor. By 1899 the tractor was in wide-spread use in the Shingletown area. In contrast to the steam donkey, the tractor could be used on slopes, providing access to areas that could not be logged efficiently by other means; as in the mining industry, this technological change allowed lumbermen to revisit areas previously rejected as too expensive to harvest. Discrete geographic areas of varied slope may therefore display physical vestiges of multiple generations of logging technology.⁸⁸

Finally, in 1904, the Holt manufacturing company paired track-type wheels with a steam tractor and introduced the "caterpillar." Soon, "cats" were in wide-spread use, pulling skid logs to the mill or landing and, more commonly, hauling milled lumber from the mills to the railroads.

Longtime Shingletown area resident Thomas Thatcher describes the respective use of the Holt and Best engines:

The Holt was a chain-driven engine, and the sprockets on the big wheel with a chain on them, were very good on the road but they weren't good [for] logging. Out in the woods the sticks would get caught in the chains and throw them off. They couldn't run over small trees like the Best engine could, and they out-weighed the Best and . . . they could pull a little bit more on the road but the Best engine maneuvered well in the woods. You could just back it up and run around anywhere in the logs and drag them out.⁸⁹

Whether acquired by lease, purchase, or contract, each invention demanded capital investment, as did construction of the flumes, roads, and railroads increasingly demanded to haul milled lumber greater distances. The incentive for small independent operators to sell proved enormous. In 1903, the Vilas brothers, of Viola, sold their mill and 5,000 acres of timberland to Thomas B. Walker and the Red River Lumber Company; McCarley-Smith sold their Bridge Creek mill and land holdings, east of LaTour Meadows, to Red River in 1907; the Reynolds-William Smith Mill on Deer Flat followed in 1905, as did the Fritz Turner Mill and lands on Bear Creek; the Reynolds Mill and lands on Bailey Creek in 1912; and the Thatcher Mill and land east of Shingletown in 1912. Walker didn't want the mills, Thatcher reports. "He was buying the mills out for the timber."⁹⁰

⁸⁶ Jeffrey Hamilton and Max Neri, "History and Prehistory of the Latour Demonstration State Forest, Shasta County, California (report prepared by North Coast Resource Management, in association with San Jose State University Department of Anthropology, for The California Department of Forestry and Fire Protection, 1997), p. 36

⁸⁷ Jeffrey Hamilton and Max Neri, "History and Prehistory of the Latour Demonstration State Forest, Shasta County, California (report prepared by North Coast Resource Management, in association with San Jose State University Department of Anthropology, for The California Department of Forestry and Fire Protection, 1997), p. 41.

⁸⁸ Hamilton and Max Neri, "History and Prehistory of the Latour Demonstration State Forest, Shasta County, California (report prepared by North Coast Resource Management, in association with San Jose State University Department of Anthropology, for The California Department of Forestry and Fire Protection, 1997), p. 41

⁸⁹ Thomas Thatcher, interviewed by anonymous, ca. 1975. Transcript on file at Meriam Library Special Collections, California State University, Chico, California.

⁹⁰ Thomas Thatcher, interviewed by anonymous, ca. 1975. Transcript on file at Meriam Library Special Collections, California State University, Chico, California

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By 1915, the Red River Lumber Company owned 1,000,000 acres of timberland in northern California, much of this land in Shasta and Plumas counties. A similar concentration of ownership and production occurred in Lassen County, where the Fruit Grower's Supply Company, manufacturer of shipping crates and owner of Susanville's largest mill, purchased 42,000 acres; and in Tehama and Butte Counties, where Diamond Match Company, with mills in Chico and Sterling City, purchased 90,000 acres. In Plumas and Lassen counties the Collins Pine Company, with mills in Chester, also acquired vast acreage.⁹¹

This consolidation of capital and land ownership wrought significant changes in the regional timber industry. Population centers shifted; economic control shifted from the hands of the local land-holding population to outside corporate interests; and the ecological damage associated with lumbering increased commensurate with increased harvest volumes.⁹²

These large-scale sales occurred only at the periphery of the isolated, high-elevation land carved in 1916 from the Lassen Forest Reserve and designated Lassen Volcanic National Park. A report submitted to the House of Representatives in support of House Bill 52 – a bill to establish the Peter Lassen National Park – includes a letter from the Lassen district forester who wrote "the proposed Peter Lassen National Park lies in the highest altitudes of the Lassen National Forest, and ranges from 6,000 to 10,400 feet of elevation." In response to concerns that designation of the national park would hinder timber harvest and local economic development, the district forester argued "on account of poor quality [unmarketable alpine and subalpine trees constituted 85% of the forest] and inaccessibility it is doubtful if the timber could be logged profitably for years to come. The true value of the area, from a timber standpoint, is for watershed protection and regulation of stream flow."⁹³

In contrast, the letter continued, the mountain region provided superb opportunities for recreation and was also "very important from a grazing standpoint, the grazers depending upon it for summer feed."⁹⁴ Prior to creation of the national park, this agricultural use constituted the region's most long-term and sustained land use.

Ranching and Farming

In 1850, non-Indian agricultural communities within the upper Sacramento Valley were limited to Bidwell's Rancho on Chico Creek, Lassen's *Bosquejo* Rancho at Vina, the *Ide Rancho* near Red Bluff, and Reading's *Rancho Buenaventura* near what is now Redding.⁹⁵ Substantial white settlement, however, would quickly follow the gold rush, as three discrete classes of permanent settlers and entrepreneurs emerged from the confusion of the largely ephemeral gold camps: 1) settlers exploring the agricultural possibilities of California; 2) stockmen and trail drivers from the older regions in pursuit of the lucrative California market; 3) gold miners who realized that greater wealth could be found in feeding and

⁹¹ Jeffrey Hamilton and Max Neri, "History and Prehistory of the Latour Demonstration State Forest, Shasta County, California (report prepared by North Coast Resource Management, in association with San Jose State University Department of Anthropology, for The California Department of Forestry and Fire Protection, 1997), p. 45; Johnson, "Chips and Sawdust"; Thomas Thatcher, interviewed by anonymous, ca. 1975. Transcript on file at Meriam Library Special Collections, California State University, Chico, California; A. E. Wieslander, "California Forester: Mapper of Wildland Vegetation and Soils," an oral history interview conducted by Ann Lage, Regional Oral History Office, The Bancroft Library, University of California, Berkeley, 1985, p. 78.

⁹² See, for example, Suzanne Baker and Laurence H. Shoup, "An Historical and Archaeological Study of the M. A. Burns and Castle Crag Lumber Companies, Shasta-Trinity National Forest," December 19, 1979, *passim*. On file at Shasta College Library, Redding, California.

⁹³ U.S. Congress, House, *Lassen Volcanic National Park*, 63rd Cong., 2d sess., Report 1021, 1914, pp. 8-9.

⁹⁴ U.S. Congress, House, *Lassen Volcanic National Park*, 63rd Cong., 2d sess., Report 1021, 1914, p. 9.

⁹⁵ Marcene Bolton, "Stephen Return Hubbard," *The Covered Wagon* (Redding: Shasta County Historical Society, 1971), p. 43.

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supplying the miners than in mining the streams.⁹⁶ These settlers included emigrant Orrin Payne who in 1856 assured his family that he stayed in northern California's gold mines and logging camps not out of avarice but in search of sufficient wealth for "a farm and a wife and a house to put her in."⁹⁷ The true measure of the land's wealth he wrote, lay not in the forests and streams but in the land.

In the immediate vicinity of Lassen Peak, this agricultural wealth was largely limited to native hay: the winters proved too long, summers too short, and the snow too deep for successful crop cultivation. In 1858, a committee of agricultural scientists employed by the state toured northern California, assessing its development and promise. In the lowland Plumas and Shasta County valleys surrounding Lassen Peak, the committee encountered diverse mixed-use agricultural operations owned by men who farmed their irrigable land, raised dairy cattle and hogs, ran stock in the high-elevation meadows, and supplemented their income with a variety of wage labor, most notably freighting to the still-numerous mining communities.⁹⁸ Additional economic enterprises including flour and lumber mills, located in the mountains near sources of water power.⁹⁹ In 1904, forest ranger A.F. Potter reiterated this emphasis on ranching, reporting that an estimated 125,000 sheep and 10,000 cattle ranged on the high, wooded hills in the summer months, while an additional 125,000 sheep were driven through the Lassen Peak region on the way to other ranges. The snow pack lingered too long in the spring to permit farming.

Those who ran stock in the high elevation meadows included those pioneer settlers who homesteaded land later incorporated within Lassen Volcanic National Park. Without exception, these holdings represented largely uncultivated, unirrigated range land, the functional and geographic extreme of a system of land use centered in the home ranches and agricultural communities of the irrigated lowland valleys. Here, natural hay – wild rye, undergrown with buffalo and bunch grass and with sweet wild clover – grew "as high as a horse's back."¹⁰⁰ By 1912, when Congress debated the merits of the proposed Peter Lassen National Park, these forest meadows provided late summer feed for an estimated 1,500 head of cattle and an undisclosed number of sheep.¹⁰¹ In two letters to park naturalist Harry Robinson, area pioneer Gertrude A. Steger described the genesis of this range use:

Crumbaugh and Logan had cattle and horses on the range near Crumbaugh Lake A Spaniard by the name of George Hedge used to be hired by several cattle men to care for their herds and keep them from straying. James A. King, who owned a race track on what is now Thatcher's Meadows had horses on King's Meadows in the 1860s.

George and his brother Fred [Dersch] . . . ran sheep on what is now known as Anklin's Meadows as well as the Dersch Meadows – in fact the entire range that was later used by the cattle men. W. W. Elmore of Anderson first ran cattle on the Anklin Meadows, then Richard Anklin, Nelson Stewart, and Andrew Jessen ran a band of cattle together. . . . Rich Logan

⁹⁶ Edward Norris Wentworth, *America's Sheep Trails. History. Personalities* (Ames, Iowa: The Iowa State College Press, 1948), p. 167.

⁹⁷ Orrin S. Payne, "Letters to His Brothers 1854-1859," April 23, 1854, June 15, 1856, December 3, 1856, July 26, 1857 Manuscript Collection, Bancroft Library, University of California, Berkeley.

⁹⁸ While grain (principally oats and wheat) was the dominant cash crop, it proved vulnerable to late spring frosts. Additional identified cash crops included fruit, grapes, berries, and truck produce. The fruits of the harvest were sold almost exclusively in the "adjacent mining communities," with surplus consumed by stock.

⁹⁹ State of California, "A Survey of Farming in American Valley, 1858," California Agriculture Report. Reprinted in Plumas Memories (Quincy: The Plumas County Historical Society, June 1985), pp. 16-18.

¹⁰⁰ Joe Goss, "The Cattle Industry in Plumas and Sierra Counties," California Cattleman, November 1967. Reprinted in *Plumas Memories* (Quincy: The Plumas County Historical Society, June 1985), p. 31.

¹⁰¹ U.S. Congress, House, *Lassen Volcanic National Park*, 63rd Cong., 2d sess., Report 1021, 1914, p. 9. Historian Douglas Strong places the estimated number of sheep within the proposed park at 2200 (Strong, *Footprints in Time*, p. 49). An estimated 10,000 cattle and 250,000 sheep grazed on the Lassen Peak Forest Reserve.

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and Horace Herbert ran cattle on Hat Creek for 17 years Jim Long's place on Hat Creek joined [Herbert's] homestead. Harry Roos of Millville also had cattle – In this [Hat Creek] section there were at least 1500 head.¹⁰²

Historian Douglas Strong therefore writes "it was sheepmen and cattlemen who found the high meadows of the Lassen country suited to their needs and were the one important economic group to use land that was later incorporated into the Park."¹⁰³ This use extended from ca. 1850 until Congress's 1916 determination that recreation, conservation, and scientific discovery defined the land's most beneficial use.¹⁰⁴

Sheep Industry

By the late 1850s, the northern California lowland valleys were severely overgrazed and vulnerable to summer drought and heavy winter snows. Both marked the summer and winter of 1861-1862, when record snowfalls and intense cold followed six hot rainless months: "in November, rains settled in with severe flooding; livestock, buildings, fences, bridges were destroyed." In the months that followed "deep snow froze and lay on the ground for weeks. Ice an inch thick was not uncommon." In Tehama County alone, the county assessor reported a loss of 20,000 head of livestock. In response, ranchers looked to augment the available range and "trails to high mountain meadows became a basic part of the livestock operation."¹⁰⁵ In 1941 an anonymous sheepman described three primary trails to the Lassen region:

One was the Lassen Trail, that started at Tehama and followed through the canyon on the south side of Mill creek. Another was the Morgan trail that followed, generally, the present Mineral road past Chester and the third trail crossed Paynes creek at Dales and continued through Viola and Manzanita Chutes.¹⁰⁶

By 1870 an estimated 76 ranchers ran cattle and sheep on land later incorporated within the Lassen Peak Forest Reserve.¹⁰⁷

These men included some of the most powerful and successful sheep ranchers in the northern California industry, including Cone & Kimball; Cone & Ward; the Howell Brothers; Leo McCoy; Grant and Sardis Wilcox; and Leland Stanford. Historian Edward Wentworth writes:

The eighties were boom days in Tehama County. On the east side of the [Sacramento] river, and as far north as Payne's Creek, was the McCoy outfit. Just below it was the Cone ranch, then the Cone and Ward ranch, and then the Stanford ranch. Senator Leland Stanford owned about fifty-five thousand acres in the southern end of the county, and had a flock of approximately fifteen thousand sheep. . . . On the west side of the river were the Finnells, with ten thousand sheep which they grazed southwest of Red Bluff and somewhat south of the Howell Brothers' holdings.¹⁰⁸

But, Wentworth continues, "the story of sheep in northern California is not the story of large operators. Hundreds of sheepmen were engaged in the business from 1860 onward and collectively they formed the biggest reservoir of

¹⁰² Gertrude A. Steger to Harry Robinson, Park Naturalist, March 2, 1944 and March 13, 1944, History File, LAVO Collection, WACC.

¹⁰³ Douglas Hillman Strong, "These Happy Grounds. A History of the Lassen Region" (National Park Service and Loomis Museum Association, 1973), p. 24.

¹⁰⁴ U.S. Congress, House, *Lassen Volcanic National Park*, 63rd Cong., 2d sess., Report 1021, 1914, p. 9.

¹⁰⁵ Anne McNabb, "Tehama For Years Leading California Sheep County," *Tehama County Memories* (Red Bluff: Tehama County Historical Society, 1983), p. 70.

¹⁰⁶ "This Business of Giving Sheep a Ride In Auto is Really Quite a Business," *Red Bluff Daily News*, Red Bluff, California, May 9, 1941, History File, LAVO Collection, WACC.

¹⁰⁷ Anne McNabb, "Tehama For Years Leading California Sheep County," *Tehama County Memories* (Red Bluff: Tehama County Historical Society, 1983), p. 70.

¹⁰⁸ Edward N. Wentworth, *America's Sheep Trails*, p. 202.

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production in the whole United States.¹⁰⁹ Lassen-area ranchers contributed to this collective pool: by 1862, Red Bluff rancher Hiram Rawson ran 2,000 sheep at Battle Creek Meadows (Mineral, California); Bear Creek ranchers Fred and George Dersch ran sheep in the meadows along Hat and King's creeks, at what is now Dersch Meadows and Anklin Meadows; Ezekial Thatcher ran sheep to the northeast of Lassen Peak; Big Valley rancher Ben Studley, by 1889, ran 800 sheep on deeded and permitted land south of Lassen Peak; and by the 1880s, a Mr. Rossen ran sheep in the Butte Lake/Snag Lake vicinity. Specific land areas included the meadows north and east of Lassen Peak in the Manzanita Lake and King's Creek vicinities and south of the peak at Battle Creek Meadows.¹¹⁰

Red Bluff rancher Robert E. Ward described the summer grazing route followed by his family for generations, beginning with his grandfather in 1882 and continuing through his own tenure in the 1920s and 1930s. In the spring, beginning in mid-April,¹¹¹ men employed by Cone & Ward would travel first to Round Valley and Deer Creek Meadows, along the Lassen Trail. The 4th night would find them at Chester Flats, the 6th at Rock Creek, the 8th at Bogard Ranger Station, ending on the 11th night at Hall's Flat where the sheep would spend the summer season. In the fall, they returned to the Sacramento Valley by way of Manzanita Chute and Viola, north of Lassen Peak.¹¹²

A typical northern California sheep operation was stocked with cross-bred Merino, Lincoln, Cotswolds, Hampshire, or Shropshire sheep bred for maximum production of both mutton and wool. Bands of ewes and their lambs utilized open range (prior to 1905) or Lassen Peak Forest Reserve range from mid-April until mid-September when they were trailed back to the home ranch. Here they were shipped to market or bred with registered rams, moved to "fall range" in the harvested fields, and then (by mid-December) to winter feed yards. Few depended on public domain for winter grazing. Ranchers fed their animals until the conclusion of the lambing season, approximately April 15. After lambing, the bands were run on spring range until the May and June shearing season.¹¹³

For all but the smallest operations, the tasks of shearing and of lambing were shared with hired itinerant crews: "the sheep shearing crews [would] ... start in California. There'd be a bunch of men, probably twenty of them, and then they'd just go from one outfit to another." These crews would have to be fed and housed, generally in sleeping tents. In the early years of the industry, sheep lambed on the open range with the associated higher mortality rate balanced, at least in part,

¹⁰⁹ Edward N. Wentworth, *America's Sheep Trails*, p. 202.

¹¹⁰ Glorianne Weigand, *Dusty Trails* (self published. Printed by Maverick Publications, Inc., Bend, Oregon, 1994), pp. 3-4; Gertrud Witherow, interviewed by Ardythe L. Coad, March 1, 1974, p. 8. Transcription on file at Meriam Library Special Collections, California State University, Chico; Harry B. Robinson, *Park Naturalist*, "Notes from an Interview with D. B. Lyon," May 15, 1945, History File, LAVO Collection, WACC, p. 1.

¹¹¹ Beginning ca. 1925, the Forest Service restricted all access to USFS summer range lands until June 1st. The drive was then initiated on approximately May 20.

¹¹² Robert E. Ward, "Cone and Ward Itinerary," August 1996, Vertical File: Sheep Drives, Tehama County, Lassen County Historical Society, Susanville. This process, relatively static for generations, changed dramatically in the 1930s when sheepmen began hauling stock to summer pasture in trucks. The Red Bluff Daily News reported: "the sheepmen has streamlined his business and hauling sheep by truck to the mountains is one of the latest inovations [sic]. . . Sheepmen who use the system declare in addition to speed, trucking is cheaper than the old method as there is little loss of weight and no mortality. The payroll is cut-down as it no longer is necessary to hire helpers to assist the regular herders in driving their bands through high creeks and through narrow mountain passes." The transition in herding practices was not only made possible by improved roads but also necessitated by increased settlement, federal grazing restrictions, and the commensurate limits to available feed enroute. "This Business of Giving Sheep a Ride In Auto is Really Quite a Business," *Red Bluff Daily News*, Red Bluff, California, May 9, 1941, History File, LAVO Collection, WACC.

¹¹³ Edward Norris Wentworth, *America's Sheep Trails. History. Personalities* (Ames, Iowa: The Iowa State College Press, 1948), pp. 408-427.

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by lower operating costs. By the 1910s, lambing crews (generally composed of Basque immigrants who had learned the trade in the sheep regions of their native Spain) operated out of large lambing sheds located on the home ranches.¹¹⁴

Summer sheep trailing generally involved a two-person crew per band of 2000: one to herd, one to tend camp and travel between town and camp with supplies. Those who could afford to hire herders who spent the summers trailing the bands to forage, living in canvas-topped sheepwagons. For others, the job was a family affair, fulfilled by sons and inherited by daughters during the haying season when the men were occupied elsewhere. Many of the men employed in the industry were of Basque descent from the West Pyrenees of Spain and France, the mainstay of the sheep industry in north central California as throughout the West.¹¹⁵

Cattle Industry

In 1966 the Lassen County Cattlemen's Association and the Lassen County Cowbellers proclaimed the Lassen Peak region "Cow Country" and presented a narrative history of 100 years of animal husbandry in the winter-range valleys and summer-range mountain meadows.¹¹⁶ Here, "cattlemen put up hay for winter feed on their valley acreage . . . [and] depend on outside grazing for spring and summer."

C.B. Rawson, H.A. Rawson and G.W. Grayson's use of Battle Creek meadows, just south of the park, is representative of historic land use associated with cattle ranching. The partners maintained a large home-ranch compound in the valley, near Red Bluff. Beginning in 1860, their hired men blazed the line of a proposed fence around an estimated 1000 acres at Battle Creek meadows and pastured cattle upon this land – arriving by mid-May and leaving by November, in normal years. ("Normal" proved elusive however, with snowfall varying significantly from year to year. Tehama County Surveyor Healy reported that in the spring of 1862 "you could not graze until June" while the winter of '62-'63 remained open and cattle "might have remained all year.") Accounts of the carrying capacity of the range varied, from 20 to 60 head of cattle for 6 months, per 160 acres. Native hay was harvested in the fall from the wet lower reaches of the property.¹¹⁷

Rawson & Grayson's cattle-ranching neighbors included Harry Wilson, who homesteaded along Hat Creek in 1891; J. W. Long who homesteaded along Hat Creek in 1892; Frank Janek who arrived at Hat Creek in 1901; R. W. Hanna who developed the large Meadow Ranch along Mill Creek, south of the park.¹¹⁸ Additional concentrated pockets of private land were located in the Warner Valley. These ranchers ran their cattle first on open range public domain and later on

¹¹⁴ Edward Norris Wentworth, *America's Sheep Trails. History. Personalities* (Ames, Iowa: The Iowa State College Press, 1948), pp. 408-427.

¹¹⁵ Edward Norris Wentworth, *America's Sheep Trails. History. Personalities* (Ames, Iowa: The Iowa State College Press, 1948), pp. 402-404.

¹¹⁶ In 1864, Lassen County was carved out of Plumas and Shasta counties.

¹¹⁷ "Notes on Kemball Vanhook Bumpass and the Case of Bumpass vs Rawson et al., 1863" (extracted from County and Court Records by Hal Campbell, December 1945), File: H, Central Files, LAVO, Mineral, California, pp. 5-8.

This use was not uncontested. In 1862, Kenball Vanhook Bumpass filed a preemption claim to approximately 159 unsurveyed acres within the tract used and partially fenced by Grayson and Rawson, "intending to inclose [sic] said tract of land for agricultural and grazing purposes." Upon staking the corners of his claim and beginning construction of a 22' x 20' log cabin, Bumpass traveled to Red Bluff for 3 days. Upon his return he found the cabin destroyed – "logs chopped in two and partially burned" – action for which he filed suit. Defendant Rawson acknowledged responsibility, citing a superior claim to the land as established through prior beneficial use; prior improvements in the form of 7 miles of brush fence, a corral, and a residence; and prior occupancy. Warren T. Sexton, of the 2nd District Court, Tehama County, found in favor of the defendants, noting that Rayson et al had "prosecut[ed] in good faith, and with reasonable diligence, the necessary steps to reduce their claim to an actual possession."

¹¹⁸ Harry B. Robinson, Park Naturalist, "Notes from an Interview with D. B. Lyon," May 15, 1945, History File, LAVO Collection, WACC, p. 1.

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Forest Service grazing leases, at Twin Lakes, King Creek, Willow Lake, Cameron Meadows, Badger Flats – anywhere that water was sufficiently abundant and timber sufficiently scarce to allow for native hay: "all of the Lassen Region, really, from Lassen Peak to Big Meadows, was prime summer range cattle country," settler Alexander Sifford remembered.¹¹⁹ By 1912, an estimated 1,500 – 2,000 head of cattle grazed under Forest Service lease on land within what would soon become Lassen Volcanic National Park.

The Federal Presence

The first important job on the Lassen Peak Forest Reserve, as on many forests, was to institute a system of grazing control. The forest was divided into grazing units, stockmen paid a yearly fee to graze their stock under permit, and the Forest Service together with the stockmen ensured that designated range capacities were abided. To get the system started, the Forest Service had to determine who was already grazing stock on the forest, how many head they had, and where they grazed them.¹²⁰ This process of apportionment required forest officials to settle differences between individuals and companies and to identify "prior users." Potter, as the chief architect of Forest Service grazing policies, developed regulations that supported the "little man" as much as possible.¹²¹ "The forests were the crucible for the new system of controlled grazing," historian Paul Roberts has written. "There were no guide-lines for no government ever had attempted such an undertaking."¹²²

The forest rangers patrolled the grazing units and administered the grazing permits. The Forest Service printed all the forest regulations in a portable book called *The Use Book* that a ranger could fit in his pocket or saddle bag. The ranger carried *The Use Book* with him at all times so that he could not only refer to it himself but could familiarize stockmen and other forest users with its relevant provisions whenever he encountered them on his patrols. Gradually the Forest Service secured the cooperation and support of those select stockmen to whom it issued permits, and it succeeded in reducing the numbers of cattle and sheep on the forest to levels that it considered sustainable.¹²³

With the 1916 designation of the park, all USFS grazing leases were cancelled and NPS rangers initiated a concerted effort to prevent cattle trespass on park lands.

Ranching within Today's National Park: The Built Environment

The first General Land Office surveys (1881-1883) showed only limited residential and ranching-related developments within the immediate boundaries of what is now Lassen Volcanic National Park. These improvements included the three Dersch cabins and corral along Hat Creek; a corral at Soap Lake along the "Emigrant Road" (Nobles Emigrant Trail); a cabin on unpatented timbered land at Manzanita Creek; and numerous trails. Surrounding wild lands were described variously as "ROCKY AND PRECIPITOUS MOUNTAINS"; "deep rocky canyons"; "heavily timbered."¹²⁴

In their testimony to General Land Office officials, all who patented public domain within or immediately adjacent to the future park testified, in only slightly varied language, that the land was not suitable to cultivation on account of "the

¹¹⁹ Alexander Sifford to Harry Robinson, Park Naturalist, February 14, 1946, File: History, LAVO Collection, WACC.

¹²⁰ Barrett, *Leaves from a Forest Ranger's Diary*, p. 33.

¹²¹ Roberts, *Hoof Prints on Forest Ranges*, pp. 38, 46.

¹²² Roberts, *Hoof Prints on Forest Ranges*, pp. 35, 55.

¹²³ Strong, *Footprints in Time*, p. 34.

¹²⁴ George Sandow, surveyor, Surveyor General's Office, USGS Department of the Interior, map of T31N R4E; T31N R5E; T30N R4E; T30N R5E, 1881-1883.

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frost" that lingered into June and revisited as early as August. Moreover, snow fall was extreme – 15' proving the norm – driving ranchmen and their stock to the lowland valleys every winter and defining a clear geographic separation between winter and summer range.¹²⁵ (Lassen Peak Forest Reserve Ranger A.B. Foster testified that in the Lassen country the climate proved "so rigorous and distance from habitation and source of supplies so great" that no one could be expected to winter on their claims.¹²⁶) Without exception, those who claimed land within the boundaries of today's national park returned "to town" with the snowfall. Here they escaped the worst rigors of winter, found school for their children, and winter range and shelter for their animals. Cultural resources associated with this historically significant theme will not include complete home-ranch facilities. Rather, the park may contain vestiges of seasonal habitation and agriculture production that may provide insights into historic patterns of land use. It is more likely that the park contains isolated remnants of summer grazing operations on USFS lease land – isolated remains directly associated with winter home-ranch facilities located beyond the park boundaries on lower-elevation land.

Review of serial patent files for successfully patented claims within the boundaries of Lassen Volcanic National Park reveal that William Elmore's claim to land one mile west of Manzanita Lake was typical. In June of 1882, William Elmore, his wife, and their three children established residence on 80 acres of land within the NWSE and SWNE of section 14, T31N R4E. Elmore received title to his claim in 1887 after meeting the residency and improvement conditions of the Homestead Act. At that time, neighbors testified that Elmore and his family resided on the land in question during the seven temperate months of summer, tending cattle. They returned to the town of Anderson during the long winters "for the reason he could not live on this land on account of the deep snow which falls to a depth of from 20 to 25 feet." Physical improvements associated with the claim included a residence (constructed by a prior inhabitant who had abandoned his claim), barn, milk house, corrals, and rail fence sufficient to enclose 20 acres. Ten of these 20 acres were planted in timothy. The house, witness William Marsh elaborated, was durable, constructed of log, with a shake roof and a good lumber floor. It contained two rooms, two windows, and two doors. Elmore is reported to have been the first man to run cattle on Anklin Meadows, a deviation from earlier use as sheep range.¹²⁷

Seventy-one year old Horace Herbert's Forest Homestead entry, filed in 1907 on land six miles northeast of Elmore's claim (within the boundaries of the park), was similarly developed. Herbert's 160 acres within the Lassen Forest Reserve straddled the historic Nobles Emigrant Trail and incorporated two natural springs and the open meadows of Badger Flat. According to Herbert's testimony to the General Land Office, and the testimony of witnesses, the bulk of the land was sparsely timbered. Improvements included a one room house (18' x 20') constructed of lodgepole pine logs; a small shed, sided and roofed with wood shakes; a small house (12' x 16') used as a barn; and "wire and log" fence sufficient to enclose approximately 125 acres. Between 1887, when he first staked his claim, and 1906 Herbert and his sons Andy and Fred cut 16,000 running feet of pine poles for use in this construction. None of the land was plowed or under ditch. Meadow grass "grew naturally" and helped sustain 50 to 60 head of cattle and five or six horses during the summer months. This same stock also grazed on adjacent forest land, under permit. Like his neighbors, Herbert returned each November "to town" where he rented a house and 300 acres of land and maintained "a complete outfit of household goods."¹²⁸

¹²⁵ Glorianne Weigand, *Dusty Trails* (self published. Printed by Maverick Publications, Inc., Bend, Oregon, 1994), pp. 10.

¹²⁶ See, for example, Homestead Entry 4337, Lassen Peak Reserve, 1907. Serial Patent Files National Archives, Washington, D.C.

¹²⁷ Gertrude A. Steger to Mr. [Harry] Robinson, March 13, 1944, History File, LAVO Collection, WACC, p. 2.

¹²⁸ Homestead Entry 4337, Lassen Peak Reserve, 1907. Serial Patent Files National Archives, Washington, D.C.; Paul E. Schulz, *Stories of Lassen's Place Names. The Origins and Meanings of the Place Names in Lassen Volcanic National Park with Relevant Annotations* (Mineral, California: Lassen Volcanic National Park, 1949), p. 2.

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Forest Service reports on the merits (and demerits) of "June 11" Forest Homestead Claims also testified to the small scale of agricultural improvements, their seasonal use, and reliance upon native building materials; in these instances, however, rangers suspected fraudulent use and described the buildings as essentially uninhabitable. Assistant Forest Ranger Thomas F. Howell described Kitty Jones' small cabin, for example, as "built of peeled logs, 16 x 20 in size. Cabin contains a stove, table, and some cooking utensils. No other buildings." "This is not [her] home," he added, "altho it is claimed as such." John Cameron's forest cabin was similarly crude. "One room log cabin, 14 by 14, covered with shakes on roof and on outside of building. No floor, no stove, no furniture, no other buildings. Claimant is not on the claim one month in twelve." (Neighbor J.W. Long refuted the ranger's description, describing Cameron's improvements as typical of the region: "I don't think they could live there the year round to make it a actual home but it looks as tho they had taken it in good intentions there [sic] summer range.")¹²⁹ Though many of these cancelled claims never left the public domain, vestiges of relinquished improvements may still be found, including building depressions, building debris, historic artifacts, exotic vegetation, or fence remains.

Place names within Lassen Volcanic National Park are also often "vestiges" of an agricultural past. At Corral Meadow near King's Creek George La Pie is said to have run cattle and constructed a log corral. King's Creek and King's Meadows are thought to be named for horseman J. M. King who, in the 1860s, grazed his mules and horses in the open meadows south and east of Lassen Peak. Peter C. Crumbaugh and a Mr. Logan ran sheep, ca. 1865, near what would be named Crumbaugh Lake. Dersch Meadows near Summit Lake is named for sheep rancher Fred Dersch who maintained a large sheep ranch first on Hat Creek near Raker Peak and later at Bear Creek and who ran sheep in the King's Creek/Summit Lake vicinity through the 1870s and 1880s. By 1883, improvements constructed at Dersch meadows, near the heart of Dersch's summer range, included a cabin and corral. Anklin Meadows at Hat Creek is named for sheep rancher Richard Anklin, land later claimed by homesteader W. W. Elmore. (All improvements were covered by the mudflow that followed the May 19, 1915 eruption of nearby Lassen Peak.) Cameron Meadows is named for brothers John and Jefferson Cameron, neither of whom patented their claims but both of whom earned reputations as successful Lassen County ranchers.¹³⁰

Context: Geological Studies

Geologic studies of the Lassen Peak region began in the 1860s. On April 21, 1860, the state legislature passed an Act establishing the California Geological Survey. The survey was to focus on California's mountain ranges and give scientific direction to mineral exploration. In 1863, this survey examined the Lassen Peak area. The survey was the first of three major geologic reconnaissances of the Lassen Peak area in the nineteenth century. Although the surveys were part of a larger effort in support of the mining industry, they provided the first scientific knowledge about Lassen Peak's volcanic origins. Over time, and particularly after the eruptions of Lassen Peak in 1914-1915, geologists gained an understanding of the volcanic processes underlying the varied landforms in the region.

¹²⁹ Folder U-Adjustments, Claims Cameron, John T. HE 3973 and Jones, Kitty HE 4751, Acc 95-93-007, Alpha Series 1901-1953, Lassen National Forest, RG 95, NARA San Bruno.

¹³⁰ Paul E. Schulz, *Stories of Lassen's Place Names. The Origins and Meanings of the Place Names in Lassen Volcanic National Park with Relevant Annotations* (Mineral, California: Lassen Volcanic National Park, 1949), passim; Thomas Thatcher to Mrs. Steger, October 22, 1941, File:History, LAVO Collection, WACC.

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The California Geological Survey

The California Geological Survey marked an important transition in the exploration of the West. During the 1850s, the federal government and the Army Topographical Engineers dominated western exploration, focusing primarily on the discovery of suitable transportation routes through the mountains. With the creation of the California Geological Survey, civilian scientists took the lead in exploration. Usually schooled in geology or metallurgy, they were concerned with locating mineral resources. The first of its kind in the West, the California Geological Survey built on a tradition of other state geological surveys in the East dating back to the 1830s. After the California Geological Survey completed its work in 1874, the federal government launched a series of geological surveys of the West led by Clarence King, F. V. Hayden, John Wesley Powell, and others. These national surveys marked a resurgence of federal initiative in western exploration. In 1879, Congress established the U.S. Geological Survey (USGS). Historian William H. Goetzmann has argued that the California Geological Survey was instrumental in bringing about this federal undertaking. "Often overlooked by Western historians and governmental historians alike, the California Survey was not only a model for the later federal surveys," Goetzmann asserted. "In scope and importance it deserves to be ranked as the first in the series of great surveys that characterized post-Civil War exploration in the Far West."¹³¹

One of the leading proponents of the California Geological Survey, and its eventual chief, was Josiah D. Whitney. As early as 1848 he argued the need for scientific knowledge as an underpinning for California's rapid economic development. In 1859, he garnered support for the survey among many leading scientists in the nation, and he persuaded California Supreme Court Justice Stephen J. Field, a family friend and one of the most powerful figures in California politics, to urge its creation. Following his appointment to head the survey, Whitney selected a number of talented assistants, starting with William H. Brewer, an agricultural chemist.¹³² Brewer would eventually lead the survey of the Lassen Peak area.

Whitney's plan called for a topographical reconnaissance of the whole state, followed by detailed geological mapping. The topographical survey would include four great north-south reconnaissances. The first would follow the Coast Range, incorporating the Coast and Geodetic Survey's maps of coastal harbors and inlets. The second would trace the western slope of the Sierra Nevada with emphasis on the Mother Lode country. The third would follow the crest of the Sierra Nevada. The fourth would examine the eastern slope of the Sierra Nevada from Death Valley northward to Honey Lake Valley. The Lassen Peak region was situated at the north end of these reconnaissances in a geologically complex area where the Coast Range and the Sierra Nevada converge with the Cascade Range to the north.

The survey did not proceed quite as systematically as Whitney anticipated. His vision of an impartial and scientific survey clashed with the ideas of many state legislators who wanted to place emphasis on the mining districts. Whitney had to contend with uncertain funding, changes in key personnel, and adverse weather. In the long run, Whitney's principled approach to the survey ran afoul of supporters in the state legislature and his work was cut short. The survey did not accomplish what its supporters had hoped insofar as giving direction to the mining industry in California. Nevertheless it pioneered various techniques that would be emulated in the later national surveys, and it yielded a wealth of information that would be used and refined by others.¹³³

The survey team first approached Lassen Peak on its reconnaissance of the western slope of the Sierra Nevada in the fall of 1862. Proceeding north of Red Bluff as far as Battle Creek, the party explored the foothills west of Lassen Peak,

¹³¹ William H. Goetzmann, *Exploration and Empire: The Explorer and the Scientist in the Winning of the American West* (Alfred A. Knopf, New York, 1966), pp. 355-357.

¹³² Goetzmann, *Exploration and Empire*, p. 358; Edwin Tenney Brewster, *Life and Letters of Josiah Dwight Whitney* (Houghton Mifflin Company, Boston, 1909), pp. 182-185.

¹³³ William H. Brewer, *Up and Down California in 1860-1864*, edited by Francis P. Farquhar (University of California Press, Berkeley, 1966), p. xv.

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climbing to the top of one cinder cone. "Lassen's Peak, and in fact, that whole part of that chain, like Mount Shasta, is a gigantic extinct volcano," Brewer wrote in his journal. "Here, in a former age of the world, was a scene of volcanic activity vastly surpassing anything existing now on the earth." The party examined interbedded layers of ash and lava, worn into canyons a thousand feet deep, and reported that all volcanic action had "ceased ages ago."¹³⁴

The following year, in September 1863, Brewer returned to the Lassen Peak region for a closer look. On September 21, they arrived at Big Meadows, above which loomed Lassen Peak, "a grand object indeed." The next day the party pushed up the valley toward the mountain, striking the Red Bluff to Honey Lake Wagon Road (also known as the Tehama County Wagon Road), which they followed for a few miles, camping at a grassy flat. They stayed in that area for two days, resting and exploring the nearby hot springs. "First came the boiling lake," Brewer wrote, "boiling furiously in many places, and clouds of steam rising from it." Above this they came to Steamboat Springs (Devil's Kitchen), where steam was spouting from hundreds of vents. They also caught trout in Willow Lake. After a third night in the same camp they moved on to a camp near the tree line on Lassen Peak, probably at Lake Helen.¹³⁵

On September 26, Brewer's survey party together with three members of the tourist party scaled Lassen Peak in inclement weather. After two days' rest, he and Clarence King went up to the summit again. Brewer estimated the elevation of Lassen Peak to be about 11,000 feet and wrote a lengthy and inspired description of the view while seated on his summit perch. "The arch of dawn rises and spreads along the distant eastern horizon," Brewer scribbled – with the thermometer reading 25 degrees Fahrenheit and a raw wind making him shiver. "Its rosy light gilds the cone of red cinders across the crater from where we are. Mount Shasta comes out clear and well defined; the gray twilight bathing the dark mountains below grows warmer and lighter, the moon and stars fade, the shadowy mountain forms rapidly assume distinct shapes, and day comes on apace." Remarkably, Brewer continued like this for several pages, so enthralled was he with the view. "Many volcanic cones rise, sharp and steep, some with craters in their tops, into which we can see – circular hollows, like great nests of fabulous birds." They stayed on the summit for nine hours. After their descent of Lassen Peak, the survey party went down Hat Creek, striking the old Nobles Trail and following it for some distance to a crossing of the Pit River at the mouth of Falls River.¹³⁶

Subsequent federal surveys included those of Clarence King who in 1870, under assignment to the U.S. Army Corps of Engineers, recognized more clearly than his predecessors that the many cones surrounding Lassen Peak occupied the caldera of a much larger andesitic volcano; Harvey W. Harkness who in 1874 conducted a detailed study of the Cinder Cone, concluding (erroneously) that the cone had erupted as recently as the 1850s; and S. E. Tillman who in 1878, under assignment to the U.S. Army, surveyed and mapped the northern limit of the Sierra Nevada including the volcanic country around Lassen Peak. Tillman purchased supplies in Chico and made two separate trips from that town northward and eastward as far as Susanville. He and his staff produced detailed maps of the country. His report described the volcanic features, the broad valleys to the southeast of Lassen Peak (Big Meadows, Indian Valley, American Valley, Butte Valley, Deer Creek Meadows, Battle Creek Meadows) and the extent of settlement in each, and the natural scenery of the region, which he found "seldom surpassed."¹³⁷

¹³⁴ Brewer, *Up and Down California in 1860-1864*, pp. 334-335.

¹³⁵ Brewer, *Up and Down California in 1860-1864*, pp. 458-459.

¹³⁶ Brewer, *Up and Down California in 1860-1864*, p. 462.

¹³⁷ Williams, "Geology of the Lassen Volcanic National Park, California," p. 208; Strong, *Footprints in Time: A History of Lassen Volcanic National Park*, p. 18; H. W. Harkness, "A Recent Volcano in Plumas County," *Proceedings of the California Academy of Sciences*, Vol. 5, (1873-74), pp. 408-412; Howel Williams, "Geology of the Lassen Volcanic National Park, California," *University of California Publications in Geological Sciences*, Vol. 21 (1931-1932), pp. 207-208; S. E. Tillman, "Report of Lieutenant S. E. Tillman, Corps of Engineers, in charge of party No. 1 Utah Section, Field Season of 1878," in U.S. Geographical Surveys West of the 100th Meridian, *Report upon United States Geographical Surveys West of the One Hundredth Meridian*, (Government Printing Office, Washington, 1879), pp. 209-214.

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The most comprehensive 19th century survey, however, was completed by J.S. Diller in the mid 1880s. Diller worked under the general direction of Captain C. E. Dutton, whose task was to survey the Cascade Range. Diller's main tasks were to get a better understanding of the region's volcanic features – including the lava flows, cinder cones, and many hot springs – as well as its relationship to the Coast, Cascade, and Sierra Nevada ranges, for the Lassen Peak region was rightly seen as the junction of these three mountain ranges. Comprehending the geologic structure of the Lassen Peak region was important not only to science but to mineral exploration. As the shallow placer deposits became exhausted, California's gold mining industry increasingly looked to the buried gold-bearing deposits of an earlier geologic epoch to sustain the industry, and Diller's contemporaries wanted to know whether or not the lava flows around Lassen Peak overlay such "auriferous" strata.¹³⁸

From the standpoint of the mining industry, Diller's major discovery was what he termed "Lassen Strait" – an ancient seaway of the Cretaceous Period that separated the Sierra Nevada on the western edge of the continent from the Coast Range on what was then an island. The rocks in the area of the former strait were younger than the auriferous deposits of the Mesozoic Era that were so extensive in the northern part of the Sierra Nevada and present, though less extensive, in the Coast Range. "If all of these newer rocks were swept away from the region between the North Fork of Feather River and Pit River," Diller wrote, "it would be found that they occupy a large depression in the auriferous series." Since the depression was filled with sea water from the end of the Cretaceous into the Pliocene, Diller named it Lassen Strait. The significance of Lassen Strait to the gold mining industry was that it represented a wide swath of country with little promise of gold recovery.¹³⁹

Diller established the geologic history of the Lassen Peak region and its relationship to the Cascade and Sierra Nevada ranges. He found that Lassen Peak occupied a "volcanic ridge" along the seam of the Great Basin platform to the east and the Piedmont to the west. This volcanic ridge merged with the Sierra Nevada Range to the southeastward and with the Cascade Range in the opposite direction, Diller explained, "but in reality it is simply an accumulation of lavas occupying a depression between these ranges and belongs geologically to the Cascade Range." As for the likelihood of imminent volcanic activity, Diller reported that the lava flows had accumulated "at various intervals in the geologic history of northern California, but the final great volcanic outburst reached its maximum near the close of the Pliocene and continued with gradually declining vigor almost to the present day."¹⁴⁰ Diller's work contributed to the belief that the Cascade volcanoes were largely extinct.

Eruptions of May 1914 - May 1915

In May 1914, Lassen Peak suddenly became an active volcano. Intermittent volcanic activity culminated nearly one year later in two spectacular eruptions on May 19 and 22, 1915, and continued sporadically thereafter until 1921. These events surprised geologists, who regarded the volcanoes of the western United States as generally dormant or extinct. With the establishment of Lassen Volcanic National Park in 1916, Lassen Peak was celebrated as the most-recently active volcano in the contiguous United States – a status it retained until 1980, when Mount St. Helens erupted.

On the evening of May 29, 1914, a nineteen-year-old rancher's daughter, Anna Scharsch, spotted a column of smoke rising over Lassen Peak from her home in Scharsch Meadows. She and her family assumed that the newly built fire lookout was burning. At 10:00 a.m. the next morning, they observed another smoke cloud over the summit. At 4:30 or 5:00 that afternoon, another local rancher, Bert McKenzie, saw a puff of dense black smoke rise several hundred feet into

¹³⁸ J. S. Diller, "Geology of the Lassen Peak District," in J. W. Powell, *Eighth Annual Report of the United States Geological Survey* (Government Printing Office, Washington, 1889), p. 401.

¹³⁹ Diller, "Geology of the Lassen Peak District," p. 404.

¹⁴⁰ Diller, "Geology of the Lassen Peak District," pp. 430-432.

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the air and knew at once that the mountain was erupting.¹⁴¹ McKenzie telephoned the Forest Supervisor's office in Quincy.

The forest clerk relayed McKenzie's message to Forest Supervisor J. W. Rushing, who ran out to the bunkhouse shouting, "Mount Lassen is in eruption!" The rangers and their wives ran up the road a short distance to where they could see the mountain. "We all were a little frightened," Ranger Harvey Abbey recalled. "We did not know what might follow the outburst."

The news and photographs of Lassen Peak's eruptions created widespread interest in the volcano. The most famous photos date from an eruption on June 14. B. F. Loomis, an amateur photographer who owned a sawmill and store in the nearby town of Viola, set up a tripod and camera near Manzanita Lake, about six miles from the peak. His series of six photographs show a dense, black, roiling cloud of ash rising about 2,500 feet into the air and rolling down the west side of the peak to enshroud the whole dome. After taking the pictures, Loomis rushed to Viola to develop the plates, then to Redding to the Valentino Studio where he produced four sets of pictures for the newspapers that same evening. "It is certainly a wonderful series of photographs," Loomis wrote proudly. "They have been published in many of the leading newspapers and magazines, and through these they have been sent all over the world. They are in use in several universities and schools, and are now being printed in various kinds of books."¹⁴²

Lassen Peak started on a new eruptive phase in May 1915. From May 7 to 13, the mountain was hidden in cloud. When the sky cleared briefly on the morning of May 13, observers thought that the mountain was erupting from a new crater. The next day, Alice Dines, postmistress at Manton, twenty miles west of Lassen Peak, reported seeing hot lava for the first time. Other witnesses reported a red glow that night and again on May 15 and May 17. About May 16, Dines detected a black mass appearing over the rim of the western summit – a lava dome pushing up out of the volcano.¹⁴³

On the night of May 19, 1915, the volcano erupted in a fiery display of shooting hot lava. G. R. Milford, the Northern California Power Company's superintendent at Volta, twenty miles west of Lassen Peak, described how a "deep-red glow" illuminated "the entire outline of the mountain-top." In a letter to the best-known expert on Lassen Peak, geologist, J. S. Diller, he wrote:

The whole rim of the crater facing us was marked by a bright-red fiery line which wavered for an instant and then, in a deep-red sheet, broke over the lowest part of the lip and was lost to sight for a moment, only to reappear again in the form of countless red globules of fire about 500 feet below the crater's lip. These globules, or balls of fire, were of varying size, the largest appeared at that distance about 3 feet in diameter, the smallest appeared as tiny red sparks. All maintained their brilliancy as they rolled down the mountainside until lost to sight behind the intervening range of hills.¹⁴⁴

At the same time Milford was observing the lava flow on the west, another tongue of molten lava coursed down Lassen Peak's steep northeastern flank, breaking into many streams and rapidly melting the snow, which, mixing with ash and pumice, rapidly gathered force and created a slurry of mud, water, and boulders. Some boulders weighed up to 20 tons. Stephen L. Harris has described this event:

The main arm of the mudflow traveled 20 miles down Lost Creek valley. Moving at a high velocity, part of the mudflow surmounted the 100-foot-high divide into Hat Creek, which was then occupied by several homesteaders and ranchers. This

¹⁴¹ Stephen L. Harris, *Fire Mountains of the West: The Cascade and Mono Lake Volcanoes*, (Mountain Press Publishing Company, Missoula, 1988), p. 59.

¹⁴² Harris, *Fire Mountains of the West*, p. 61; Arthur L. Day and E. T. Allen, *The Volcanic Activity and Hot Springs of Lassen Peak* (Carnegie Institution, Washington, 1925), Plate 1; B. F. Loomis, *Pictorial History of Lassen Volcano* (Loomis Museum Association, Mineral, California, 1947, second edition), p. 12.

¹⁴³ Harris, *Fire Mountains of the West*, p. 66.

¹⁴⁴ Quoted in Harris, *Fire Mountains of the West*, p. 66.

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branch of the flow was far more dilute than that which inundated Lost Creek and is more accurately described as a turbid flood than a true mudflow. It nonetheless carried a significant load of rock debris and destroyed everything in its path: trees, fences, bridges, and farm buildings. Previously fertile meadows and grazing land were buried under a thick coating of mud, which was said to resemble wet concrete as it flowed.¹⁴⁵

The events of May 19 and 20 were building toward a climactic eruption on May 22. Again, Harris described what occurred:

The "Great Eruption" began moderately, but rapidly increased in force and volume. Before the eyes of thousands of persons throughout northern California, an enormous cloud boiled upward from Lassen's summit. Churning and rolling into a clear blue sky, the pale-gray to deep black cloud reached an estimated height of five to seven miles above the crater. As the giant umbrella spread out over the northern Sacramento Valley, ash rained down over a wide area. The prevailing winds carried the eruption cloud far to the east, where ash fell on towns as far as 200 miles from the volcano....

Viewers west of the mountain saw only the upward-moving eruption cloud. The most devastating effects were produced by a ground-hugging cloud that simultaneously swept the northeast face. A seething mixture of hot gas, ash, and rock fragments of various dimensions traveled approximately 4.5 miles down Lassen's northeast flank into the heads of Lost and Hat Creek valleys. Described as a "pyroclastic surge," this swift-moving cloud mowed down thick stands of virgin timber, snapping off tree trunks as much as six feet in diameter and hurling them hundreds of feet from their stumps. Altogether, an estimated five and half million board feet of timber were destroyed. So great was the force of the surge that trees toppled along its margin defied gravity by falling uphill, away from the explosion source.¹⁴⁶

Work of Geologists During the 1915 Eruptions

Shortly after the May 22 eruption, Diller, who had investigated the Lassen Peak region in 1883, was directed to proceed to California and study the eruptions. Throughout the preceding twelve months, Diller had monitored events from afar, receiving numerous letters and reports from local residents and Forest Service officials. Now he traveled from Vancouver, B.C. to Redding, and established a field headquarters at Manzanita Lake. Meanwhile, Arthur L. Day arrived in the town of Mineral.

On at least one occasion these two leading authorities on Lassen Peak's eruptions made a joint field inspection of the mountain. The two men arranged to meet each other at the house of B. F. Loomis in Viola to study his photographs. The scientists stayed two nights and Loomis recalled how Day, a "jovial" and "communicative" man, sat on his porch with his sawmill crew and talked "volcano." The next day, Loomis accompanied Diller and Day on a trip to the ridge dividing Lassen Peak and Chaos Crags, where they examined ejecta from the recent eruptions.¹⁴⁷

Diller correctly forecast that Lassen Peak had largely spent itself in the eruption of May 22 and that its volcanic activity would now subside. He was in Drakesbad on July 13, 1915, when an eruption occurred that dropped enough ash for him to write his name in it on the porch railing of his cabin. There were further eruptions on August 25 and 27 that sent up plumes of ash visible from far down the Sacramento Valley. Still another sizable eruption occurred on October 25, 1915.¹⁴⁸

Lassen Peak entered one more eruptive phase in April to June, 1917. Local resident George Olsen reported an eruption on April 5 that seemed larger than anything since the big eruption of May 22, 1915. Five weeks later, on May 18, Lassen Peak belched clouds of ash more than 10,000 feet into the air and rumbled for six hours. Twenty-one

¹⁴⁵ Harris, *Fire Mountains of the West*, p. 67.

¹⁴⁶ Harris, *Fire Mountains of the West*, pp. 69-70.

¹⁴⁷ Loomis, *Pictorial History of the Lassen Volcano*, p. 64.

¹⁴⁸ Harris, *Fire Mountains of the West*, p. 72.

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eruptions were recorded in June, and Day found that this last eruptive phase opened a new vent on the extreme northwest corner of the summit. After June 1917, the mountain quieted. Small columns of smoke or steam were reported on different occasions in 1919-1921 as the volcano gradually fell dormant.¹⁴⁹

Lassen Peak's Role in the Evolving Science of Volcanology

Geologic studies of the Lassen Peak region in the late nineteenth century — notably that of J. S. Diller — were part of an emerging scientific literature on individual volcanoes and volcanic districts. These works, though largely descriptive, contributed to a growing understanding of volcanic activity and structures.¹⁵⁰ After the turn of the century, geologic studies of volcanoes focused increasingly on the chemical composition of volcanic extrusions to understand the processes taking place in the magma beneath the surface. Arthur L. Day and E. T. Allen produced *The Volcanic Activity and Hot Springs of Lassen Peak*. Day was attached to the Carnegie Institution's Geophysical Laboratory, a leading institution in the effort to accumulate data on igneous rocks, volcanic gases, hot springs, and fumeroles.¹⁵¹ The work by Day and Allen was the most in-depth of several geochemical studies of Lassen Peak in this period. In 1932, Geologist Howel Williams stated "perhaps no North American volcano has been so extensively studied chemically as Lassen Peak."¹⁵²

In the early decades of the twentieth century, volcanologists were also making strides in geophysical studies of volcanoes with the use of seismographs and other techniques for measuring forces beneath the surface. Italian and Japanese volcanologists were at the forefront of developing new geophysical studies of Mount Vesuvius in Italy and Asama Volcano in Japan respectively. American volcanologists, meanwhile, focused their efforts on Kilauea at the Hawaiian Volcano Observatory, established in 1912. Dr. T. A. Jaggar, the leading American volcanologist of the era, became the first director of the Hawaiian Volcano Observatory. In 1919, the U.S. Geological Survey assumed responsibility of the Hawaiian Volcano Observatory and formed the Section of Volcanology, appointing Jaggar as volcanologist in charge. Although the Hawaiian Volcano Observatory centered its attention on Kilauea on the big island of Hawaii, its mission was to study Pacific volcanoes including those on the West Coast of the mainland United States.¹⁵³ In 1926, the U.S. Geological Survey established the Lassen Volcanic Observatory in Mineral.

Observatory and Seismographic Station

The observatory's purpose was not only to further scientific knowledge of volcanoes, but to monitor Lassen Peak for reasons of public safety. As Jaggar noted, contrary to public perception many of the volcanoes on the West Coast posed a threat of eruption. He referred to the "Lassen Myth" - the complacent belief that the California peak was the only active volcano on the mainland of the United States. "Nothing could be more erroneous," he insisted.¹⁵⁴

R. H. Finch, associate volcanologist in the Section of Volcanology, took charge of the observatory at Mineral. The station consisted of a small office building constructed over a ten-by-ten-foot cellar in which were located two seismographs. (One seismograph measured north-south motion of the ground and the other east-west motion.) The piers for the support of the seismographs extended two feet below the cellar floor into highly compacted alluvial material.

¹⁴⁹ Harris, *Fire Mountains of the West*, p. 72.

¹⁵⁰ Williams and McBirney, *Volcanology*, p. 16.

¹⁵¹ Williams and McBirney, *Volcanology*, p. 16.

¹⁵² Williams, "Geology of the Lassen Volcanic National Park, California," p. 195.

¹⁵³ Fred M. Bullard, *Volcanoes in History, Theory, and Eruption* (University of Texas Press, Austin, 1962), pp. 27-28.

¹⁵⁴ *The Volcano Letter*, No. 266, January 30, 1930, p. 3.

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Next to the building were a rain gauge and instrument shelter. Nearby was a cottage residence for the volcanologist provided by the Forest Service.¹⁵⁵

Finch built the seismographs to his own specifications, and described them in detail in an article in *The Volcano Letter*:

The general plan of the instruments follows the lines of the Omori seismographs as they have been modified by Hawaiian experience. The time-piece is an excellent Howard pendulum clock, with seconds pendulum and eight-day movement. The upright posts, 10 by 10 inches square, rise 27 inches above piers which are 18 inches high and two feet square. The heavy masses weigh 225 pounds, consisting of cast-iron containers holding nine lead weights, each bored to take a screw-eye for convenience in handling by one man. A mental [sic] rod passes horizontally through the middle of the latter, greatly reduced in size at the outer end. The larger portion next to the post is bent slightly, and fits a niche in the face of the post, where it is held by a cardan hinge consisting of a very short piece of fine steel wire, in slots. The upper support is a piano wire with the usual adjustments at the top of the post. The system is damped by sheet-aluminum vanes attached to the arm, moving edge-wise in a tank of oil, supported by a removable stand in front of the pier. This permits instant lowering of the oil tank for tests of free swing of the pendulum.

The magnification of the boom is 5, and of the writing lever, 40, making the total static magnification 200. The drum is built on a steel spindle threaded with 1/4-inch worm, the ends being made of 3/16-inch three-ply wood, and the cylindrical surface of pasteboard. Light-weight glassine paper is used, each seismogram being 12 1/2 by 38 inches in size. The writing pens are of magnetized steel, lifted to make a gap in the record every minute by an electromagnet, and the pivots of the tubular aluminum writing levers and of the pen-points are made of clock and watch balance staffs. The speed of the drum is 30 millimeters to the minute, and the transmission of motion from the pendulum arm to the writing levers is by means of light metal T-bars, with points resting in sockets in the arm and the lever, respectively. A marker pen attached to the plate supporting the drum and lever system, writes a line for a few minutes once a day on the side of the smoked paper, to be used as a datum line for measurement of wandering of the pendulums under tilting of the ground. The free period of the pendulums is seven seconds.

All of this material, with the exception of the time piece, was gathered together and erected by the Associate Volcanologist, and the driving clocks for the drum were obtained from the Seth Thomas Company, having two-barrel drive and a rotation rate of the spindle of about 15 minutes, which is slowed down with the appropriate gear.¹⁵⁶

Finch established two auxiliary seismographic stations, one near Manzanita Lake and the other on Mount Harkness (no longer extant). In addition to the accumulation of seismographic data, Finch collected various other geophysical data on Lassen Peak and its environs. He compiled a record of seasonal temperature changes in several hot springs, and drove stakes into the slope near the Supan Sulphur Springs and measured slippage of the slope from month to month. Based on field measurements, Finch suggested that there was "an accumulation of west-southwest tilt over and above the seasonal effect. ... As the center of present-day volcanic activity is to the northeast, it is assumed that the accumulation is due to a rising of the ground in that direction."¹⁵⁷ Finch also conducted field research, including a study that used dendrochronology to date recent volcanic events at Cinder Cone.¹⁵⁸ With C. A. Anderson, he studied the magnetic

¹⁵⁵ R. H. Finch, "An Observatory for the Study of Lassen Peak," *Bulletin of the Seismological Society of America*, Vol. 18 (1928), pp. 5-8; *The Volcano Letter*, No. 103, December 16, 1926, p. 105.

¹⁵⁶ *The Volcano Letter*, No. 115, March 10, 1927, p. 115.

¹⁵⁷ Quoted in Williams, "Geology of the Lassen Volcanic National Park, California," p. 213.

¹⁵⁸ R. H. Finch, "A Tree Ring Calendar for Dating Volcanic Events at Cinder Cone, Lassen National Park, California," *American Journal of Science*, Vol. 33 (1937), pp. 140-146.

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orientation of crystals in basalt flows and determined that there had been four or five separate lava flows from Cinder Cone, not two as Diller had described.¹⁵⁹

Finch and other volcanologists reconstructed the details of the eruptions of 1914-15 from physical evidence as well as photographs and eyewitness accounts by local residents. Although Diller, Day, Holway, and other geologists had visited Lassen Peak during the eruptions, and a considerable scientific literature developed about the eruptions, the scientific yield from Lassen Peak's eruptive phase was less than it might have been. The most significant debate over the nature of the eruption concerned the origin of the great mud flow of May 19, 1915. While Day and Allen believed the flow was caused by the melting of snow by hot rain and ashes and by a hot steam blast from beneath the crater rim, Finch argued that the flow was caused by lava spilling out of the crater and flowing a short distance down the northeast flank of the volcano. In any case, the volcanologist Howel Williams, who studied Lassen Peak in the late 1920s and early 1930s, commented on the dearth of scientific observation. "It is a matter of much regret that the recent activity was not studied continuously in the field by geologists," he wrote.¹⁶⁰

If Lassen Peak's eruption did not make that mountain the equal of such devastating volcanoes as Krakatoa, Mount Pelée, and Vesuvius, the establishment of a national park around it did have the effect of highlighting the variety of volcanic landforms and phenomena featured within the park area. Various popular works on the geology of the park appeared, including Frona Wait Colburn's *The Kingship of Mt. Lassen* (1922) and B. F. Loomis's *Pictorial History of Lassen Volcano* (1926). In 1959, park naturalist Paul E. Schulz produced an overview, *Geology of Lassen's Landscape*, primarily for the benefit of national park visitors.¹⁶¹ In 1980, Philip S. Kane, a professor of geography, wrote an updated overview titled *Through Vulcan's Eye: The Geology and Geomorphology of Lassen Volcanic National Park*.¹⁶²

Tectonics Theory and Volcano Typology

In the intervening years between Schulz's book and Kane's, volcanology had made new advances in connection with the revolutionary theory of earth dynamics known as global plate tectonics or "continental drift." Kane's book reflected these new perspectives on the tectonic forces at work in the Lassen Peak region. Kane began with a discussion of plate tectonic theory and a plate tectonic interpretation of the Cascade Range. Lassen Peak was now placed solidly within the Cascade Range, and the Cascade volcanoes were explained in relation to the collision of the Pacific and Atlantic plates. Plate tectonic theory helped to explain not only the forces that underlay volcanoes but also the origins of the predominantly basaltic lava fields found across the western United States — including the Modoc formation that abuts the Lassen Peak region on the northeast.¹⁶³

Kane also described the main types of volcanoes (dome volcanoes, composite volcanoes, shield volcanoes, and tephra cones) and showed that there were examples of each found within Lassen Volcanic National Park. Volcanologists had differentiated these types of volcanoes for a long time, but now the underpinning plate tectonic theory added clarity to the classification scheme. Significantly, Kane observed, the national park had all four volcanic types in evidence (although this proximity of landforms had more value to park visitors than it did to science). "There are few places in the

¹⁵⁹ R. H. Finch and C. A. Anderson, "The Quartz Basalt Eruptions of Cinder Cone, Lassen Volcanic National Park, California," *University of California Publications in Geological Sciences*, Vol. 19 (1929-1931), pp. 245-273.

¹⁶⁰ Williams, "Geology of the Lassen Volcanic National Park, California," p. 212.

¹⁶¹ Paul E. Schulz, *Geology of Lassen's Landscape* (Lassen Volcanic National Park, Mineral, California, 1959).

¹⁶² Philip S. Kane, *Through Vulcan's Eye: The Geology and Geomorphology of Lassen Volcanic National Park* (Loomis Museum Association, Mineral, California, 1980).

¹⁶³ Kane, *Through Vulcan's Eye*, pp. 4-14; R. L. Christiansen and P. W. Lipman, "Cenozoic Volcanism and Plate Tectonic Evolution of the Western United States," Part II, *Philosophical Transactions of the Royal Society of London*, Vol. 271 (1972), pp. 249-284.

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world that contain such a diversity of volcanic landforms in such a relatively restricted area as does Lassen Park," he wrote.¹⁶⁴

Plate tectonics theory led to a reassessment of the public safety threat posed by the many Cascade volcanoes. Although these volcanoes were dormant, they were not tending toward extinction. For many years, Lassen Peak had been perceived as the most likely to erupt of all the Cascade volcanoes but it gradually lost that status in the 1960s and 1970s. A major tremor and rockslide on Mount Rainier in 1963 alerted park officials to the potential threat to public safety in Mount Rainier National Park.¹⁶⁵ Dwight R. Crandell and Donald R. Mullineaux of the U.S. Geological Survey studied the volcanic hazards at Mount Rainier in the mid-1960s, and the two scientists completed similar studies for other Cascade volcanoes in the following years. Stephen L. Harris provided a synthesis and popular treatment of this new research, with an emphasis on the Cascade volcanoes continuing dynamism, in *Fire and Ice: The Cascade Volcanoes* (1976). Finally, the eruption of Mount St. Helens on May 18, 1980, led the general public to the sort of reassessment that volcanologists had been urging for years. The force and destructiveness of Mount St. Helens' eruption in 1980 far surpassed Lassen Peak's in 1915. More importantly, it was not seen as an anomaly the way Lassen Peak's activity had been. These developments transformed Lassen Peak's longtime reputation as the only active volcano in the contiguous United States in historic times.

The U.S. Geological Survey increased its level of monitoring of Cascade volcanoes. At Mount Rainier, for example, it took aerial photographs and infrared images of the summit crater and installed seismographs at various points on the mountain. After 1980, the USGS upgraded its monitoring capabilities with a laser-ranging device that could detect bulges in the mountain dome and another device that could detect changes in gas emissions from the summit crater.¹⁶⁶ Similarly, the USGS placed four new seismographs in Lassen Volcanic National Park in 1976. These were located at the southwest entrance, Manzanita Lake, and on Lassen and Reading peaks. It also placed two inclinometers on the Chaos Crags to monitor slope slippage, and two tiltmeters on Lassen Peak to measure changes in the angle of the surface of the peak. Unlike the seismograph stations of the early twentieth century these were unmanned and linked by radio or telephone line to the USGS earthquake laboratory in Menlo Park, California where they were monitored 24 hours per day.¹⁶⁷

Context: Tourism and Recreation

The tourism industry, as initiated by private enterprise and as sustained and encouraged by the National Park Service, stands as the Lassen region's most long-standing economic enterprise. Tourists' needs spawned construction of a wide-range of infrastructure including roads, trails, accommodations, and vacation homes. Tourists' demands for scenic vistas, clean air, clean water, and outdoor recreation opportunities also inspired early conservation efforts. The period of significance extends from ca. 1860 until NPS acquisition or, for those resources that remain in private ownership, until the end of the historic period as defined by the National Register of Historic Places. Tourist-related resources constructed by private enterprise yet currently administered by the National Park Service may also be eligible for listing under the National Park Service Administration and Development context (see below).

¹⁶⁴ Kane, *Through Vulcan's Eye*, p. 36.

¹⁶⁵ Theodore Catton, *Wonderland: An Administrative History of Mount Rainier National Park* (National Park Service, Seattle, 1996), p. 640.

¹⁶⁶ Catton, *Wonderland*, p. 641.

¹⁶⁷ Newspaper clipping, December 21, 1976, Lassen Volcanic NP vertical file, Tehama County Public Library.

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"Many have climbed Vesuvius, and have peered into the molten lava crater of Kilauea but have never seen Lassen Peak. This fact is neither creditable *nor* profitable," Frona Wait Colburn wrote in her tourist tract *The Kingship of Mt. Lassen*.¹⁶⁸ Both pride of place and an interest in the potential profitability of scenery inspired local boosters and land owners to promote recreational use of the Lassen region. This use built upon a 19th-century tradition of recreational excursions, often incidental to some more-practical purpose (such as prospecting or hunting), that while having little effect upon the county coffers did increase public awareness of the beauty and pleasure of a Lassen outing.

Historian Earl Pomeroy has argued that the tourist is not simply a 20th-century phenomenon, the product of the automobile, dependable roads, and leisure time, but instead has long wandered the American West, sometimes lurking in the disguise of prospector and explorer, more often in undisguised pursuit of pleasure, knowledge, and adventure. Always a cash crop (as welcome and waited for, Pomeroy writes, as "the spring lamb or winter wheat"), the tourist was often also a source of pride – an eastern visitor affirming the worth and validity of a western place – and often also a potential investor in and future resident of nascent western communities.¹⁶⁹

Throughout much of the tourist west, 19th and early 20th century travelers arrived by rail, from the eastern states.¹⁷⁰ These tourists confirmed fame and fortune on Yellowstone and Yosemite national parks, Pikes Peak, Manitou Springs, the grand resorts of San Diego and San Francisco. Yet western residents themselves also recreated, establishing a parallel trend in tourist patterns, though a trend less well-documented than that of wealthy eastern rail travelers, and with fewer dramatic effects on the built environment. Pomeroy writes:

Some of the earliest Westerners amused themselves on local camping trips, perhaps to the coast near Santa Cruz to pick berries or near Newport to fish and eat rock oysters. Before there were roads they went on horseback, later by wagon. Oregon farmers took to moving their families to the mountains in the late summer or autumn, passing several weeks before harvest time in hunting and fishing, berry picking, and making jams and preserves. Young men sometimes welcomed assignments to pasture horses and mules in the Sierra Nevada.¹⁷¹

By the 1880s, "Westerners were camping on an impressive scale." In 1885, a writer for the travel magazine *Overland* reported that "nowhere is rough-and-ready gypsy camping on the simplest scale more thoroughly appreciated as a family play than in the Western States." Many of these campers, the *Overland* reported, had learned this appreciation for nature while prospecting, lumbering, or emigrating; it was a part of their frontier heritage.¹⁷²

Northern California was well populated with prospectors, lumbermen, and emigrants eager to escape San Francisco's crowds or the Central Valley's heat. Camping in the Sierra foothills and along the coast became a time-honored, multi-generation tradition. These northern California visitors often stayed for weeks or months, or as long as the school

¹⁶⁸ Mrs. Frederick H. Colburn (Frona Eunice Wait), *The Kingship of Mt. Lassen. At Present the Only Active Volcano on the Mainland of the United States. In the Past California's Greatest Benefactor* (San Francisco: Nemo Publishing Company, 1922), frontpiece. Emphasis added.

¹⁶⁹ Earl Pomeroy, *In Search of the Golden West. The Tourist in Western America* (Lincoln and London: University of Nebraska Press, 1990 [first published 1957]), pp. xv-xvi, 131. For a newer historical interpretation of tourists and tourism, which emphasizes the transformative and unintended affects of the industry on local communities, see Hal K. Rothman, *Devil's Bargains: Tourism in the Twentieth-Century American West* (Lawrence: University Press of Kansas, 1998). On the automobile culture and tourism, see Warren James Belasco, *Americans on the Road: From Autocamp to Motel, 1910-1945* (Cambridge, Mass: The MIT Press, 1979).

¹⁷⁰ Pomeroy, *In Search of the Golden West*, p. xvii. Pomeroy writes: "[by the 1870s] a nation urbanized, industrialized, and free in its urban and industrial prosperity from the distractions of civil war, could afford to send more tourists west, and shortly had railroad cars to carry them."

¹⁷¹ Pomeroy, *In Search of the Golden West*, p. 141.

¹⁷² C. F. Gordon Cummings, "The World's Wonderlands in Wyoming and New Zealand," *Overland* (January 1885), quoted in Pomeroy, *In Search of the Golden West*, p. 142.

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calendar permitted. The built environment reflected this use: there were few grand hotels and resorts, but instead camp sites, summer homes, and rustic cabin complexes: "a tradition of informality persisted."¹⁷³

By ca. 1900, the Redding Chamber of Commerce actively advertised recreational use in a series of "educational" tracts and tourist pamphlets unabashedly promoting the scenic beauty of the Lassen region. The region was variously called "God's Wonderland," the Switzerland of America, "Nature's Curiosity Shop," and an "unheralded wonderland" that promised a wealth of scenery to rival the wealth of timber and fertile soil in the adjacent forests and valleys.¹⁷⁴ Increasingly, Shingletown and Chester were known not as "lumbering towns" but as "lumbering and resort towns," where scenery, hunting, and fishing proved near as valuable a commodity as timber.¹⁷⁵

The most dramatic scenery and impressive destination proved the summit of Lassen Peak. A summit excursion, in the mid-nineteenth century, required several days and a considerable outfit.¹⁷⁶ Conforming to Pomeroy's prospector-as-tourist, G. K. Godfrey took a side trip to Lassen Peak while on a prospecting expedition with nine other miners in 1851. He later described his adventure in *Hutchings' California Magazine*. The men were in search of a legendary "lone cabin," the site of a lost gold strike near the headwaters of the Feather River, when they apparently decided to climb Lassen Peak for pleasure. The mountain dominated the skyline from Big Meadows, where Godfrey and his party encountered Peter Lassen "with a small pack train, conveying provisions and merchandise to his store in Indian Valley." Perhaps Lassen boasted of having climbed the mountain and gave Godfrey and his party the inspiration to do the same; in any case, Godfrey wrote that "Lassen was the first man who made the ascent of this peak."¹⁷⁷

The Godfrey party reached a hot spring "emitting steam, and occasionally sparks of fire" (probably Bumpass Hell) which Godfrey described as a distinct volcano "situated to the south-east or next to the highest table land of Lassen Peak." After resting here, the party continued its ascent picking its way arduously through the large, angular lava rocks all the way to the summit. Godfrey described the panoramic view at some length. "I love nature always," he wrote, "but especially when in her noblest and simplest grandeur....Nothing I ever saw, in point of scenery, so delighted me as a view from this peak."¹⁷⁸

By the 1860s, homesteaders on the approaches to Lassen Peak were beginning to make an income as camp hosts and guides for parties of recreationists from Red Bluff, Reading, and other nearby towns. J. C. Tyler owned a ranch at Mill Creek Meadows where he hosted a large group of revelers who hunted, fished, danced, and enjoyed other outdoor activities in the summer of 1864. Among the group was Helen Tanner Boldt, a landscape and portrait painter from Red Bluff, and her husband Aurelius. The couple traveled to Lassen Peak so that she could paint the beautiful mountain.¹⁷⁹

¹⁷³ Cummings, "The World's Wonderlands," quoted in Pomeroy, *In Search of the Golden West*, p. 142.

¹⁷⁴ Charles W. Seffens, *In the Good Old Summertime. Touring in the Northern Counties of California. Auto Camping De Luxe. Sightseeing and vacationing amongst the mountains and valleys; by the Rivers, Lakes, and Streams of God's Wonderland. Trip 1925*, copy on file at the Shasta County Historical Society, Redding; M. E. Dittmar, *Shasta County California*. Sunset Magazine Homeseekers' Bureau for the Board of Supervisors, Shasta County, California (on file at LAVO), no date (ca. 1910).

¹⁷⁵ See, for example, W.J. Brokenshire, District Ranger, United States Forest Service, "Valuation Report Juniper Lake Tract Lassen Volcanic National Park," pp. 11-13, and James A. and Richard R. Hopper, "Appraisal of Sifford Properties in Lassen Volcanic National Park," July 15, 1952, File: Inholdings, LAVO Collection, WACC.

¹⁷⁶ With completion of NPS Route 1 and improvement of the Lassen Peak summit trail, the summit trip changed dramatically. Visitors were able to drive their cars to "within less than an hour's ride or hike of the Lassen summit, there to be met by horses if they are desired." L.W. Collins to the Director, April 8, 1930. Unaccessioned historic material, LAVO, p. 1.

¹⁷⁷ G. K. Godfrey, "Lassen's Peak," *Hutchings' California Magazine*, Vol. 14 (1859-60), pp. 299-300.

¹⁷⁸ Godfrey, "Lassen's Peak," p. 302.

¹⁷⁹ "Mineral-Lassen Area Development Told," *Red Bluff Daily News*, February 14, 1947, Lassen NP vertical file, Tehama County Public Library.

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One other party of campers shared this valley, identified as six miles from "Lawson's Butte" [sic] in the Mill Creek drainage; Morgan Hot Springs, in private ownership, are shown today on USFS maps.¹⁸⁵ Yet a third party camped in a second valley ¾ mile distant, presumably near today's Child's Meadow resort.

By 1890, the name Morgan Springs was commonly accepted and recreational use of the valley had been institutionalized by Mr. Morgan himself who had constructed bath houses, a general store, and pasture fencing. Edna Saygrover of Redding, who visited Morgan Springs in 1903, reported that "many people from Redding, Cottonwood, Anderson and Red Bluff spent weeks at this resort. The only charge made was for the pasture of horses and the campers bought groceries at [Mr. Morgan's] store. Saygrover's journal account effectively details the difficulty of the journey, the recreational opportunities pursued, and the degree to which the experience conformed to long-standing and popular local tradition. It is quoted at length:

August 11, 1903 – A party consisting of the Kirk Gray family, Mr. Gray's niece Mary Knapp, Jack Hosick, and I left Redding at seven o'clock in the morning by wagon for a never-to-be-forgotten trip to Morgan Springs and Mount Lassen. It was a four-horse wagon, one with a long bed and improvised seats in the back for us to sit on. All our camping equipment was stacked around us, tents, cooking utensils, bedding, as well as hay and barley for the horses. We reached the Anderson Free Bridge at noon where we had lunch. . . . We reached the Balls Ferry Bridge at 4:45. . . We went on to Battle Creek where we spent the night.

August 12 – We arose at four that morning, had breakfast, and then proceeded to the Joe Long place. Here we had lunch, started again and camped all night at the Hickman place on the old road leading from Red Bluff to Battle Creek Meadows, now known as Mineral.

August 13 – We stayed at the Hickman's place until noon and there we had our first venison brought to us by some people who lived in the neighborhood. After lunch we started and camped that night on the top of the mountains. We had no water except what we had in the canteens . .

August 14 – We started at three in the morning because we knew the horses were thirsty. We arrived at Cold Creek where we stopped for breakfast. . . . Here we cooked on a campfire, toasted bread on sticks, and ate on a huge flat rock jutting out into the creek. This rock, a natural table, was very popular and everyone who traveled that way stopped for lunch or dinner and made use of the table. At 8:00 a.m. we left and reached Battle Creek Meadows about 9:30. . . . We reached Morgan Springs at noon, had lunch, stretched our tents, prepared supper and sat around the campfire. Our first callers were Corrine and Zelma Ellery and their mother. They were also from Redding and are camping at Morgan Springs.

August 15 – We took our first steam bath. The bath houses were all made of logs. They had wood flooring with openings for the steam to come into the bath house. A dressing room and a shower were provided in a little cubby hole right next to the bath. The shower was made of a barrel with a big cork in the bottom; attached under the cork was a can lid which had been punched with nail holes. . . . It worked! . . . After dinner we all gathered around the campfire and had a social dance. Mr. Morgan had built a platform near the campfire where we danced.

August 30 – We fried some flapjacks and started our ride to the top of Mount Lassen. . . . The trails were not very plain but we went along single file, first Kirk on old Bones, then Mary on Peg Leg Kit, and I with our lunch bucket brought up the rear on Lazarus. . . . When the mountain became very steep, we tied them and walked on. When we reached the top we saw a hole about twenty or thirty feet deep. . . . Then we came to what seemed like little volcanos throwing out lava, so many of them I cannot mention each one. Above our heads, not more than two hundred yards, was a snow covered peak. This sounds rather fishy, talking of fire and snow in the same mountain, but nevertheless it is true.¹⁸⁶

¹⁸⁵ Fannie to Mama, August 27, 1864; Harry Robinson, Monthly Report of Park Naturalist, August 1943. This second party may have included Helen and Aurelius Boldt who climbed Lassen Peak in August of 1864 in company with Major Reading (see above).

¹⁸⁶ Edna Shelton Saygrover, "A Trip to Mount Lassen in 1903," *The Covered Wagon* (Redding: Shasta Historical Society, 1962), pp. 39-46.

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On August 28, 1864, Brodt would climb the mountain as well, the first known ascent by a white woman. Aurelius described the climb in a letter to his mother:

It was a thrilling adventure – we walked over ice & snow that had probably lain there for centuries – we found a Crater in active operation, sending up vast clouds of sulphurous steam, & making a deafening roar, similar to an immense steam-engine blowing off steam – we found a beautiful little Lake near the top of the mountain, which was named "Lake Helen," after my wife, she being the first woman that ever saw it – also her name and the date, "Aug. 28, 1864," is inscribed on the side of a large rock on the very peak, she being the first woman that ever ascended the peak.¹⁸⁰

The next year, another Red Bluff citizen, Watson Chalmers, editor of the *Red Bluff Independent*, made a recreational visit to Lassen Peak. The party had as its guide "an old and experienced mountaineer" named Kendall Vanhook Bumpass.¹⁸¹ Chalmers and his companions climbed Lassen Peak, proudly writing their names on a piece of paper and slipping it into a bottle which they placed at the highest point. Chalmers noted that there was a collection of such messages at the summit – as definite a sign as any that the mountain was now attracting recreational use.¹⁸²

Recreational ventures more commonly pursued than a day's mountain climbing– and potentially more profitable to local communities and landowners – included extended camping trips. In 1864, Mrs. P. B. Reading (Fannie) "went to the mountains" for the month of August, accompanied by 14 human companions and 12 horses.¹⁸³ Two spring wagons were filled with provisions (including "flour, bacon, onions, crackers, cheese, sweet and Irish potatoes, cabbage, beans etc. besides tea, coffee, chocolate, sugar etc.," all augmented with venison secured by the men of the party. "So you see," Fannie wrote, "we live very well."). As near as can be determined from Fannie's letter home to her mother, the trip had no distinct purpose save pleasure and escape from the summer heat and drought that beset the Central Valley. Fanny described both pleasure and respite:

The valley (about 100 acres) we are in is the most wonderful place I ever saw. The mountains on all sides are thickly covered with cedar, pine, fir, and arbor vitae, and the valley with grass two or three feet high and wild flowers in bloom.

There is a creek of cold water through the middle of the valley three to six feet wide. But the most wonderful thing is the hot springs coming up through the solid rock, all along the sides of the creek. The largest of the boiling springs is about eighteen inches or two feet in diameter, and six inches deep; on all sides you may gather quantities of sulphur, salt and alum.

On one of the largest [springs], near a cold stream, Major Reading has put up a bath house and dressing room of willow, cedar, and arbor vitae; the water is just warm enough to be pleasant and if too hot there is cold water two or three steps off.

We call the valley "Morgansia" . . . three or four valleys around here are claimed by a nephew of The General Morgan . . . or Steamboat Valley as the vapors from the springs look like a steamboat.¹⁸⁴

¹⁸⁰ Harry Noyes Pratt, "A Woman Pioneer on Lassen's Peak," *Overland Monthly and Out West Magazine*, Vol. 82, No. 11 (November 1924), p. 524.

¹⁸¹ This man apparently gave his name to Bumpass Hell because of an unfortunate incident that occurred while they were examining the boiling mud pots. While walking near the edge of a cauldron, Bumpass broke through the thin crust and "plunged his leg into the boiling mud beneath, which, clinging to his limb burned him severely." They treated the leg with snow and salt packed in a handkerchief.

¹⁸² "Writer Tells of Old-Time Editor's Trip Through 'Wilds of Lassen Area,'" *Red Bluff Daily News*, February 17, 1947, Lassen NP vertical file, Tehama County Public Library.

¹⁸³ Her companions included "Jeanette, the children, two Indian nurses, an Indian boy, and the driver; Major Reading in the buggy and Collins and one man in the spring wagon . . . Mr. Sheldon with another spring wagon drawn by mules . . . and a boy riding Jeanette's horse; fourteen in all and twelve horses."

¹⁸⁴ Fannie to Mama, August 27, 1864, Sierra Nevada Six miles from Lawson's Butte, File 207 Part III, Box 46, RG 79, NARA San Bruno.

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September 5 – We got up at three in the morning, prepared breakfast by lantern and left our camp which we had dubbed "Hotel Cliff House" It was a wonderful trip and one I shall never forget!

Today, in the garage associated with the Hanna house at Morgan Springs, lies an old sign reading "Mud Baths 25¢."

The Manzanita Lake area, most-easily accessed from Redding rather than Red Bluff, also proved popular with campers (though the quality of the fishing rather than of the mineral baths appeared of greatest concern). Frank and Chappell described Manzanita and Reflection lakes as "as pretty mountain lakes as are found anywhere. . . . No lakes in the State, or any other State, can boast of larger, handsomer crimson-sided, fierce-eyed mountain trout than are found in these lakes." (Major Reading informed Frank and Chappell that he first stocked Manzanita Lake in 1848 while landowners J.E. Stockton and W.H. Coffee stocked Reflection Lake in 1875, and maintained a fish-hatchery dam and reservoir at their Reservation Lake timber claim.¹⁸⁷ Reflection Lake froze smooth and clear in the winter, and generations of area children tell of winter skate parties.¹⁸⁸ In 1944, Lassen Volcanic National Park administrators concluded that the Manzanita Lake region had been continuously used for recreation for almost a century.¹⁸⁹

The Built Environment : Transportation

By circa 1920, upon designation of Lassen Volcanic National Park yet prior to initiation of the NPS development program, the Lassen Peak periphery could be accessed via state and Forest Service roads leading from Red Bluff, Redding, Susanville, and Quincy. Colburn wrote:

There is an automobile service from Red Bluff to Morgan Springs [near today's Southwest Entrance], and from Redding to Manzanita Lake. There is also an automobile stage from Susanville to Drakesbad, seven miles from the southern base of the volcano. A shorter auto trip is from Westwood, twenty-five miles from Drakesbad. Westwood is a terminal of the California-Nevada line of the Southern Pacific. . . . The Western Pacific Railroad goes through the picturesque Feather River Canyon, and from Keddie or Doyle it is possible to motor to the base of Lassen Peak. . . . Four laterals lead out from Red Bluff and the southwest while still other short-cuts converge from various California angles, thus providing many approaches to this matchless Switzerland of America. Even now it is not difficult to reach the mountain from any direction, whether by footpaths with pack animals and camping outfits, or by vehicle over the fairly good wagon roads. The question of personal comfort need not deter the Nature lover from an incursion into the realm of Mt. Lassen's volcanic kingship.¹⁹⁰

Additional secondary access roads included the Butte Lake/Cinder Cone Truck Trail, the Warner Valley Road to Drakesbad, the Juniper Lake Road, the Twin Lakes Truck Trail and the Badger Flats Truck Trail (which roughly followed the course of the historic Nobles Emigrant Trail). Construction of the Juniper Lake road represented a unified effort between timber and recreation interests. The Warner Valley road to Drakesbad and the Devil's Kitchen area had been constructed ca. 1894 by homesteaders Peter Guscetti, James Kelley, and Edward R. Drake. The Butte Lake/Cinder Cone road had been constructed by campers and fishermen.¹⁹¹ "Pack trails" included those from Mineral/Battle Creek

¹⁸⁷ B.F. Frank and H.W. Chappell, *The History and Business Directory of Shasta County*, "Natural Curiosities," quoted in James V. Lloyd, "A Study of the Proposed Limitation of Visitor Use and Type of Use for the Manzanita Lake Area in Lassen Volcanic National Park," April 8, 1944, File: 207 Part IV, Box 46, RG 79, NARA, San Bruno, p. 2.

¹⁸⁸ Pam Koeberer Pitt, interviewed by Ann Emmons, Historical Research Associates, Inc., February 2002. Transcript on file with the National Park Service, LAVO.

¹⁸⁹ Frank and Chappell, *The History and Business Directory of Shasta County*, "Natural Curiosities," p. 2.

¹⁹⁰ Colburn, *The Kingship of Mt. Lassen*. p. 40.

¹⁹¹ Thos. E. Carpenter, Landscape Architect, "Report to the Chief Architect Through the Superintendent of Lassen Volcanic National Park. Reconnaissance of Road Routes from the Southwest Approach Road and from the Park Loop Highway to the Southeast Section of the Park," September 1935. LAVO Collection, WACC; John C. Preston, Superintendent, Memorandum for the Regional Director, Region IV, May 27, 1940, File 630 (Roads Part I), Box 61, RG 79, NARA, San Bruno..

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Meadows to the summit of Lassen Peak; along Kings Creek/Black Butte by way of Cold Boiling Lake; and a trail from Lake Helen to Bumpass Hot Springs. (These trails were "nothing more than mere paths. . . following the path of least resistance, . . . rocky and rough, and very steep.")¹⁹²

The Lassen Volcanic National Park Association, composed of journalist M.E. Dittmar; Susanville banker Jules Alexander; former California governor George Pardee; and Red Bluff businessman H.L. Conrad, spearheaded the financing of road construction, expansion of the road system (particularly the Lassen Park Highway), and conservation efforts central to extensive and profitable development of the area as a scenic playground.¹⁹³

The Built Environment: Accommodations

Although camping predominated, rustic accommodations were available in the Lassen vicinity, most constructed as off-shoots of settlement ventures and most located on the periphery of the park, where reduced snowfall and gentler topography eased visitor access. In 1944, park superintendent James Lloyd reported that accommodations north of Lassen Peak, excluding the NPS-operated Manzanita Lake Lodge complex, included the Viola Hotel and Scharsch's cabin complex, both located approximately 7 miles north of Manzanita Lake on State Highway 44; Doane's Camp, 11 miles northeast of Manzanita Lake, in the Hat Creek Valley on State Highway 89; and Day's Resort and Olmstead's Camp at Old Station, also in the Hat Creek Valley. All of the above facilities were described as constructed "many years" prior to 1944, all were patronized by both through-travelers and also tourists, particularly fishermen and hunters. All were only modestly profitable and all, by the 1930s, proved less-popular with tourists than the Manzanita Lake Lodge complex, located 1,400' higher in elevation and distinctly cooler in the summer months.

Tourist facilities in the immediate Mineral vicinity were scarce on account, Lloyd reported, of the "lack of pleasant surroundings . . . and the depth of snow blanketing [the area] until well into July." Morgan Springs, now the Hanna Ranch, on the Chester to Susanville Highway, was "very popular" and "the early day favorite spot for camping, fishing, and bathing." Southeast of Lassen Peak, the Drakesbad Resort in Warner Valley, accessed via rough dirt road from the Chester to Susanville Highway, offered tourist accommodations well in advance of park designation and today stands as the only extant in-park representative of the turn-of-the-century tourist industry (Juniper Lake Resort and Supan Hot Springs were developed as tourist facilities following park designation and are described in the NPS Administration and Development Context, below).

Context: National Park Service Administration and Development

Of all those who have traveled through, gleaned sustenance from, inhabited, managed, and enjoyed Lassen Peak and its immediate environs, the National Park Service has left the most obvious imprint on the land. Of the known National-Register eligible cultural resources extant within the park, all but the Loomis Museum, Nobles Emigrant Trail, and Drakesbad Resort are directly associated with National Park Service administration.

Lassen Peak and Cinder Cone National Monuments

In addition to homesteaders, hunters, and loggers, the Lassen Peak region had long attracted a considerable number of pleasure seekers. Residents of the Upper Sacramento Valley in particular sought relief from the summer heat by camping in the mountain meadows and on the shores of lakes near Lassen Peak. In March 1906, citizens of Plumas and

¹⁹² Anonymous, "Final Construction Report on Bumpass Hell Trail Construction, Account 531," no date (ca. 1933). LAVO Collection, WACC.

¹⁹³ George E. Goodwin, Chief Civil Engineer, National Park Service, "Preliminary Report," quoted in Colburn, the *Kingship of Mt. Lassen*, pp. 66-69.

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Lassen counties signed petitions calling for the area to be made a national park. They were motivated not only by the desire to preserve the area's scenery and recreational values for their own use, but to encourage tourists to visit the region. Boosters in this era saw tourism as a golden opportunity to bring potential investors through their communities. The petitions were addressed to President Theodore Roosevelt and sent to Senator George C. Perkins of California. Among the people who signed the Plumas County petition were the sheriff, tax collector, clerk and recorder, a judge, and a mineral surveyor with the General Land Office. The signers of the Lassen County petition included farmers, ranchers, teachers, doctors, and lawyers, a postmaster, a miner, a lumberman, a printer, a barber, and a power company official, indicating broad support of the measure. Forest Supervisor Barrett remembered that the two petitions marked the beginning of "local agitation for a National Park." Although he would later recommend designation of small national monuments under Forest Service control, Barrett put his own name on the Plumas County petition.¹⁹⁴

Senator Perkins forwarded the petitions to Secretary of the Interior Ethan A. Hitchcock with a "most hearty endorsement," and Hitchcock requested a report from the General Land Office. In October, Acting Commissioner George F. Pollock reported that the petitioners had not defined any boundaries for the park and proposed that the Forest Service recommend areas for protection. Acknowledging that the region contained numerous points of scientific interest, he concurred with the petitioners that some portion of the Lassen Peak Forest Reserve deserved protection as a national park. Of particular interest were Bumpass Hell, various hot springs, and Cinder Cone. If the Forest Service supported the national park proposal, Pollock stated, then his agency would be prepared to present it to Congress.¹⁹⁵

In the meantime, Congress passed the Antiquities Act of June 8, 1906. Sponsored by Congressman John Lacey of Iowa, the law was intended to protect areas of unusual historic or scientific interest. It authorized the president to proclaim such areas as national monuments. President Theodore Roosevelt immediately invoked the law to create Devils Tower National Monument in Wyoming, thereby establishing the important precedent that national monuments could encompass monumental landforms (much like national parks) as well as archaeological or historic resources. Despite this action, however, there was no immediate expectation that national monuments would be administered together with national parks by one agency.¹⁹⁶

The Forest Service responded quickly and aggressively to the legislation. Forester Gifford Pinchot promptly revised *The Use Book* to reflect the Forest Service's ability to manage such areas. The 1906 edition, issued less than a month after passage of the Antiquities Act, included the following two paragraphs on historic and scientific monuments:

All persons are prohibited from appropriating, excavating, injuring, or destroying any historic or prehistoric ruin or monument, or any object of antiquity situated on lands owned or controlled by the Government of the United States, without the permission of the Secretary who has jurisdiction over the land involved...

Forest officers should report to the Forester the location and description of all objects of great scientific or historic interest which they find upon forest reserves, and should prevent all persons from injuring these objects without permission from the Secretary of the Agriculture....¹⁹⁷

Pinchot's purpose was to demonstrate that national monuments need not be transferred out of the Forest Service's jurisdiction for they would receive due consideration under national forest management.

¹⁹⁴ Strong, *Footprints in Time*, p. 35; Barrett, *Leaves from a Forest Ranger's Diary*, p. 33.

¹⁹⁵ Strong, *Footprints in Time*, pp. 48-49.

¹⁹⁶ That development would come many years later after the creation of the National Park Service, when Executive Order 6288 consolidated national monuments, military parks, and historic sites within the national park system. Hal Rothman, *America's National Monuments: The Politics of Preservation* (University Press of Kansas, Lawrence, 1994); Barry Mackintosh, *Shaping the System* (U.S. Department of the Interior, Washington, 1991), p. 24.

¹⁹⁷ U.S. Department of Agriculture, Forest Service, *The Use Book* (Government Printing Office, Washington, 1906), pp. 69-70.

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In compliance with Pinchot's directive, Barrett recommended six areas around Lassen Peak for designation as national monuments. The areas included Crater Lake and Mountain (outside the present park boundaries), Supan Springs, Lassen Peak, Bumpass Hell, another boiling spring, and Cinder Cone. Barrett emphasized Cinder Cone and included Snag Lake, Butte Lake, and the nearby lava beds within this proposed national monument. He also noted that the head of Warner Valley contained points of interest (Devils Kitchen) but he excluded them because of private land holdings in the vicinity. Barrett noted that the volcanic terrain around Lassen Peak was "sparsely timbered and of practically no value for grazing" because it was nearly devoid of vegetation, and none of the areas he described were useful for anything but attracting tourists with the "natural curiosities" that they contained.¹⁹⁸¹⁹⁹

Secretary of Agriculture James Wilson approved Barrett's proposal for the establishment of two national monuments and forwarded the correspondence to Secretary of the Interior James R. Garfield. Wilson reiterated Barrett's arguments and cited the work by J. S. Diller as evidence of the area's scientific importance. He also noted that national monuments could be created immediately by presidential proclamation, while national parks required an establishing act of Congress. The latter process could take time, and could always be accomplished later. Garfield endorsed the proposal, concurring with Wilson that the Forest Service could administer the small national monuments efficiently in connection with the Lassen Peak Forest Reserve. On May 6, 1907, President Roosevelt proclaimed Cinder Cone National Monument and Lassen Peak National Monument.²⁰⁰

Cinder Cone National Monument extended from Butte Lake in the north to Snag Lake in the south and encompassed all of Cinder Cone and the area now known as Fantastic Lava Beds – approximately eight square miles. Lassen Peak National Monument included only two sections of land, or little more than the summit and slopes of Lassen Peak. The boundaries did not extend to Lake Helen or Bumpass Hell. Together, the two national monuments composed about 6400 acres. Even with this minimal land area, the proclamation was framed so as not to arouse local sentiment. "The reservation made by this proclamation is not intended to prevent the use of the lands for forest purposes under the proclamation establishing the Lassen Peak National Forest," the proclamation stated, "but so far as the two reservations are consistent they are equally effective. In all respects in which they may be inconsistent the National Monument hereby established shall be the dominant reservation."²⁰¹

In 1913, the Forest Service built a fire lookout on the shoulder of Lassen Peak within the national monument. Measuring 14 feet by 14 feet, the building had windows on all four walls and a pyramid roof. Forest Supervisor Kling designed the lookout himself, incorporating joints to ensure ease of disassembly in the shop in Red Bluff and re-assembly on the mountaintop. Each separate piece of the lookout was small enough to be carried up the mountain on a man's back.²⁰² The lookout was in use for less than a year before the mountain erupted.

The Establishment of Lassen Volcanic National Park

On August 9, 1916, Lassen Volcanic National Park was established by an act of Congress. It joined a growing number of other national parks then under the charge of the Secretary of the Interior. A little more than two weeks later, on August 25, 1916, Congress passed a law creating the National Park Service. The law effectively combined these units into a National Park System.

¹⁹⁸ Strong, *Footprints in Time*, p. 36.

¹⁹⁹ Strong, *Footprints in Time*, p. 37.

²⁰⁰ Strong, *Footprints in Time*, p. 37.

²⁰¹ 35 Stat. 2132.

²⁰² William C. Hodge, "The Lookout on Mount Lassen," *American Forestry*, Vol. 20 (August 1914), pp. 568-571.

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The efforts to establish Lassen Volcanic National Park coincided with the movement to establish a federal bureau or service specially charged with administering the national parks. These were formative years for the national park idea in which national park advocates struggled to define the purpose of national parks and to differentiate them from national forests. National park advocates argued that a strictly utilitarian approach to conservation did not adequately address esthetics. This schism within the conservation movement became most apparent in the controversy over the damming of Hetch Hetchy Valley in Yosemite National Park, which Congress authorized after prolonged debate in 1913. Although that decision went against so-called "preservationists," it publicized their cause. The establishment of the National Park Service three years later institutionalized a dual approach toward management of the nation's wild lands, with the Forest Service and the National Park Service reflecting "conservationist" and "preservationist" ideals respectively.²⁰³

In point of fact, these two wings of the conservation movement worked together much more often than they fought. Recent scholarship on the history of the national park idea has emphasized the utilitarian impulse within the National Park Service, which sought to develop these areas for public enjoyment and the economic benefit of tourism.²⁰⁴ Stephen T. Mather, first director of the National Park Service, saw the need to make national parks readily accessible by automobile in order to promote their recreational use and create a mass constituency for the National Park System. "Mather's vision embraced a correlated system of superlative scenic areas which should become the familiar playgrounds of the whole American people," wrote Robert Sterling Yard, a prominent publicist of the national parks, in 1920. "He foresaw in the national parks a new and great national economic asset."²⁰⁵

Congressman John E. Raker of California, who was more instrumental than anyone in the establishment of Lassen Volcanic National Park, exemplifies how preservationists and conservationists were often indistinguishable. Raker worked for legislation to create the National Park Service, and in 1912, he introduced his first bill to establish a "Peter Lassen National Park." Yet he also was a strong supporter of the Forest Service, and in 1913 he voted in favor of authorizing the Hetch Hetchy Reservoir. Not surprisingly, Raker's bill contained provisions that would allow grazing use and summer home development to continue within the national park. Personally familiar with the area from his numerous visits to the Drakesbad resort with his family, Raker sought national park designation chiefly to enhance the area's recreational appeal.²⁰⁶

Probably Raker would have been unable to distinguish his national park proposal from dozens of others had Lassen Peak not erupted in May 1914. "We have suddenly developed a scenic wonder in northern California that is in a class by itself," wrote one of the campaigners for the national park in June 1914.²⁰⁷ Lassen Peak was then the only active volcano in the contiguous United States. Combined with the scenic attractions and the variety of volcanic features, the area now possessed the kind of superlative qualities that Congress looked for in establishing national parks.²⁰⁸ As Yard would write a few years later, "the national parks are far more than recreational areas. They are the supreme examples. They are the gallery of masterpieces."²⁰⁹

²⁰³ Stephen Fox, *The American Conservation Movement: John Muir and His Legacy* (Madison: University of Wisconsin Press, 1981), pp. 139-147.

²⁰⁴ Richard West Sellers, *Preserving Nature in the National Parks: A History* (Yale University Press, New Haven, 1997).

²⁰⁵ Robert Sterling Yard, *The Book of the National Parks* (Charles Scribner's Sons, New York, 1920), p. 22.

²⁰⁶ Stong, *Footprints in Time*, p. 46.

²⁰⁷ U.S. Congress, House, *Lassen Volcanic National Park*, 63rd Cong., 2d sess., Report 1021, 1914, pp. 11-12.

²⁰⁸ See Alfred Runte, *National Parks: The American Experience*, 2nd rev. ed. (Lincoln: University of Nebraska Press, 1987). In this seminal work, Runte argues that "monumentalism" – or the search for freakish and monumental landscapes and geologic features – guided efforts to create national parks. Only later did the preservation of whole ecosystems and ecological processes inform national park establishment. The campaign to establish Lassen Volcanic National Park clearly fits Runte's thesis.

²⁰⁹ Yard, *The Book of the National Parks*, p. 20.

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In December 1915, Raker introduced another bill to establish a national park. Emphasizing the recent eruption, the name was changed from Peter Lassen to Lassen Volcanic National Park. After minimal discussion, the bill passed both houses of Congress in July 1916. When Stephen Mather, who had joined the Wilson Administration the previous year as special assistant to Secretary of the Interior Franklin K. Lane, read about the permissive provisions in this legislation, he advised his boss to recommend a veto. Mather was in the final stage of his campaign for legislation to create a National Park Service, and he believed the bill could weaken the National Park System. Secretary Lane, however, did not want to offend Raker, a strong supporter of the national parks. He did not convey Mather's objections to President Wilson, who signed the bill into law on August 9.²¹⁰ On January 19, 1929 park boundaries were adjusted modestly to include areas of scenic value, concentrated visitor use, and to more accurately reflect the natural extremes of geological and biotic zones. Manzanita and Reflection lakes, the summit of Brokeoff Mountain, Chaos Jumbles, Raker Peak, additional reaches of Lost and Hat creeks, and sections of Nobles Emigrant Trail were added to the park at this time. Additional land acquisitions with a direct impact on park land mass, use, and infrastructure development included acquisition in 1947 of 160 acres of Forest Service land immediately adjacent to the Manzanita Lake campground, sufficient to facilitate "broader, more logical planning of the entire Manzanita Lake area," and acquisition of the Terminal Geyser area in 1987, allowing plugging of a deep-test steam well drilled by Phillips Petroleum in 1978, land reclamation, and removal of industrial waste.²¹¹

Administration and Development

Lassen Volcanic National Park enabling legislation, approved by Congress on August 9, 1916, established that the park would be under the exclusive control of the Secretary of the Interior, to whom fell responsibility for development and implementation of laws and regulations providing for the "care, protection, management, and improvement" of the park. More specifically, said regulations were to protect from injury, spoliation, or wonton destruction all timber, mineral deposits, wonders, natural curiosities, and fish and game. This protection notwithstanding, the Secretary of the Interior was granted the authority to execute leases to park lands for the construction of visitor accommodations and summer homes or cottages, and to construct (within the limits of funding and upon proper examination of the land base) such improvements as were deemed necessary for the education and pleasure of visitors and for proper administration.²¹²

Park Superintendent Leavitt would later succinctly summarize the needs of park administrators: "open roads, proper communication, proper sanitary facilities, properly maintained structures for the employees and their ranger stock, and safety measures for the benefit of the public." Visitors' needs were similarly straightforward: shelter, roads, trails, and recreational and educational opportunities.²¹³

Park management plans, as written in 1926 and modified in subsequent decades, generally reflected this division of administrative responsibilities with Development; Interpretation; and Preservation defining the three primary management sectors. Similarly, development eras can be roughly reduced to three: the period of park creation and vision planning during which the Park Service laid the foundation of the development program (1916-1931); the New Deal era, when the gross framework of Lassen infrastructure and visitor services – the framework in which the park continues to

²¹⁰ Robert Shankland, *Steve Mather of the National Parks* (Alfred A. Knopf, New York, 1954), pp. 170-171.

²¹¹ "Annual Report, 1947," no page; Douglas H. Strong, *Footprints in Time. A History of Lassen Volcanic National Park* (Lassen Loomis Museum Association in cooperation with the National Park Service, 1998), p. 83.

²¹² 39 Stat. 442. Lassen enabling legislation also included the provision that "the United States Reclamation Service may enter upon and utilize for flowage or other purposes any area within said park which may be necessary for the development and maintenance of a Government reclamation project." This provision was eliminated in 1972, in association with the act to designate certain lands in the park as Wilderness (86 Stat.918).

²¹³ E. F. Leavitt, Superintendent, to Regional Officer, Region Four, April 16, 1937, File 600, LAVO Collection, WACC.

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operate – was constructed (1932-1941); and the Mission 66 period when park personnel attempted to upgrade services to meet the needs – and numbers – of modern tourists (1956-1966).²¹⁴

The paucity of existing infrastructure at the time of park creation and the absence of significant boundary adjustments have resulted in striking consistency in infrastructure patterns: Today, as historically, the Lassen Park Highway defines the placement of all major-use areas. Butte Lake, Warner Valley/Drakesbad, and Juniper Lake facilities are located on the outskirts of the park, as are most private inholdings predating the park's creation. Much of the park therefore remains undeveloped save foot and pack trails, as it did throughout the early settlement period. The "primitive" character of this land was formally recognized in 1972 with Congressional designation of the Lassen Volcanic Wilderness Area.

Development

Years of Abeyance - 1916-1931

From 1916 until 1925, the nascent Lassen Volcanic National Park was administered from Yosemite and patrolled by the United States Forest Service. Budgets for interpretation, development, and protection were virtually nonexistent. Not until the mid-1920s would the Park Service embark on a sustained effort to plot and plan for Lassen's future. In 1926, NPS Director Stephen Mather visited Lassen for the first time. Two years later, the NPS Education Committee, headed by John C. Merriman of the Carnegie Institute, described a virtual blank slate upon which to construct that infrastructure central to the Park Service's mission to educate and to protect. "Mount Lassen Volcanic National Park presents an exceptional possibility for development of a fully balanced and adequate educational program," the NPS Education Committee reported, "since it is yet only in the initial stage of development." This educational program, the committee continued, rightly and necessarily formed the foundation of *all* administrative tasks and could be simply defined as making the major features of the park both accessible and also intelligible to the public. To the first generation of Park Service administrators, then, fell the tasks of defining, first, the elements of principal interest and importance in the park; thence of laying out the roads and trails necessary to access these elements of interest and importance and of defining those points best suited for construction of visitor accommodations and other services; and finally, of developing those means by which the visitor might become "acquainted" with the more important phenomena.²¹⁵

Only privately owned lands, or inholdings, smudged this slate, presenting "obstacle[s] to sound planning and desirable use" and posing the threat of private development (building construction, commercial operations, Christmas-tree harvest, cattle grazing) conducted beyond Park Service control and counter to the Park Service development plan. Even those lands in friendly hands or non-objectionable use presented the continual possibility of acquisition by "big interests" committed to "major commercial non-desirable use." "The ultimate influence of a privately owned area upon the surrounding country might involve many serious problems," the committee warned.²¹⁶ Twenty years later, park administrators would echo that first warning: "[inholdings] at Sulphur Works, Warner Valley, Juniper Lake, and Hat Creek control some of the finest exhibits of thermal activity in the park or lie squarely in the path of logical physical development."²¹⁷

²¹⁴ USDI NPS, *General Management Plan and Environmental Impact Statement, Lassen Volcanic National Park* (Washington: Government Printing Office, 2001), p. 28.

²¹⁵ Anonymous (NPS Education Committee), "Recommendations Regarding Development of an Educational Program at Mount Lassen Volcanic National Park," no date, LAVO Collection, WACC, pp. 1-3.

²¹⁶ NPS Education Committee, "Recommendations Regarding Development of an Educational Program," p. 11.

²¹⁷ "Annual Report, 1946" [Return to Normal from War Condition]. Unaccessioned Historic Material, LAVO, no page.

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Principal Features of the Park: Identification

Although Lassen Volcanic National Park offered great recreational potential and spectacular scenery, the committee noted that its national park status was due to its unique concentration of geological features "exhibiting all the external evidence of volcanic activity" – as displayed through Lassen Peak and the manner of its building; the lava flows; ashes; evidence of heat in lava outpourings; and cinder cones. Areas of principal administrative concern and interpretive potential therefore included Lassen Peak; Brokeoff Mountain; Lost Creek; the Devastated Area; Cinder Cone; and hot spring areas (Devil's Kitchen, Sulphur Works, and Bumpass Hell). Moreover, the park was determined to contain areas of unmodified primitive fauna and flora of northeastern California and presented opportunities to study the distribution and variation of life forms as influenced by volcanic and hot spring phenomena.²¹⁸

Finally, the park was determined to contain impressive scenic features, "in the form and magnitude . . . of [its] peaks and in the beauty of associated lakes and forests."²¹⁹

Principal Features of the Park: Making them Accessible

Principal features thus identified, NPS engineers and landscape architects were charged with the following task:

work out a plan by which visitors may have access to the outstanding features of the park, such as those major phases of interest in the devastated area, the historical evidence uncovered by the Lost Creek flood, the best means of ascending or encircling the mountain so as to learn its story, the best means of visiting and interpreting the hot springs areas, the best routes to be taken for study of the flora and fauna, and the best routes to be followed over the park to study the life zones or distribution of the fauna and flora.²²⁰

Protection of the resources themselves – the integrity of the springs, the viewsheds of the geological features, the lifezones in which the flora and fauna flourished – was an inherent underlying component of this development plan.²²¹ Moreover, while points of scenic beauty were not considered principal features (scenic beauty not being unique to Lassen), "the element of beauty" was to be maintained when possible, both by securing access to scenic areas as possible and by protecting beauty through careful adherence to the tenets of rustic design (see below).²²²

Infrastructure constructed prior to park designation, outside the framework of yet appropriate to this development plan, was largely limited to Drakesbad Resort in the Warner Valley, near Devil's Kitchen; rough access roads to Drakesbad, Badger Flat/Twin Lakes, Butte Lake/Cinder Cone, and Juniper Lake;²²³ and trails from Mineral to the summit of Lassen Peak, along Kings Creek/Black Butte by way of Cold Boiling Lake, and from Lake Helen to Bumpass Hot Springs. (Though these trails were "nothing more than mere paths. . . following the path of least resistance, . . . rocky and rough, and very steep" they accessed designated points of interest.)²²⁴

²¹⁸ NPS Education Committee, "Recommendations Regarding Development of an Educational Program," pp. 4-5.

²¹⁹ NPS Education Committee, "Recommendations Regarding Development of an Educational Program," pp. 7.

²²⁰ NPS Education Committee, "Recommendations Regarding Development of an Educational Program," p. 5.

²²¹ NPS Education Committee, "Recommendations Regarding Development of an Educational Program," p. 6.

²²² NPS Education Committee, "Recommendations Regarding Development of an Educational Program," p. 5.

²²³ Thos. E. Carpenter, Landscape Architect, "Report to the Chief Architect Through the Superintendent of Lassen Volcanic National Park. Reconnaissance of Road Routes from the Southwest Approach Road and from the Park Loop Highway to the Southeast Section of the Park," September 1935. LAVO Collection, WACC.

²²⁴ NPS Education Committee, "Final Construction Report on Bumpas Hell Trail Construction, Account 531," no date (ca. 1933). LAVO Collection, WACC.

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Principal Features of the Park: Making them Intelligible

This task contained multiple elements, including acquisition of data through consultation with specialists and through study and determination of the most-effective means of presenting that data to the public in order to educate and to stimulate curiosity.

Critical data included that data related to park geology and biology. "Necessary funds for conduct of such researches" were identified as important elements of the park's regular budget.²²⁵ In 1936, under the direction of naturalist Dr. Carl R. Swartzlow, a Native American component was added to the education program.²²⁶

Means of presenting that data included a central museum; small publications or bulletins; talks or lectures; and guided walking tours. During the initial period of development, the Park Service acquired the Loomis Museum, constructed in 1927 on private land and gifted to the park in 1929 at the time of park expansion. Complaints regarding the adequacy of the small museum, of the artifact and specimen collections, of the scientific data, and of interpretive displays run as mantra through annual reports and development plans. Though a new museum and visitor center was proposed as part of both Depression-era and the Mission 66 funding programs, it was never authorized. Only recently, as it nears its 90th birthday, has the park secured approval and funding for a Visitor Center.

New Deal Era - ca. 1932-ca. 1941

By 1940, the general outlines of this plan of operation (if not its fullest application) had been largely realized, principally during the Depression-era when New Deal programs provided additional funding and prior to WWII when the park curtailed new development in response to wartime austerity measures.²²⁷ More than any other single park improvement, construction of the Lassen Park Highway opened the park to visitor use and defined the scale and placement of all subsequent administrative and recreation facilities. Development was concentrated at designated "Developed Areas" – Manzanita Lake, Summit Lake, the Southwest Entrance Area, Mineral Headquarters, Butte Lake, Warner Valley, Juniper Lake – and at "zones of roadside influence."²²⁸

Road System

Completed in 1929, the Lassen Park Highway²²⁹ bisected the park, providing access to areas of primary geological interest and dramatic scenic beauty. Agitation for road construction began immediately following designation of the park,

²²⁵ NPS Education Committee, "Recommendations Regarding Development of an Educational Program," p. 7.

²²⁶ Medlin, *Fire Mountain*, p. 99.

²²⁷ Gas and rubber rationing resulted in a sharp decrease in park visitation. In 1941, 108,000 people visited the park. Only 20,000 visited in 1944. Of these, rangers reported, most reflected "weekend traffic from the valley." Strong, *Footprints in Time*, p. 96; Monthly Reports, 1942-1944, LAVO Collection, WACC, passim.

²²⁸ This construction program was seriously interrupted December 10-11, 1937 when 15 inches of rain fell on Lassen Volcanic National Park, an extreme manifestation of a severe storm that swept the entire western states. The combined runoff from this rain and from the snowmelt that followed washed out large sections of the Lassen Peak Highway, numerous truck trails, and minor and campground roads. Battle Creek grew to "immense proportions, such as never previously witnessed by any of the old local residents," washing out the headquarters hydroelectric system dam, penstocks and intake. The Manzanita Lake outlet was significantly enlarged. Transmission lines and telephone systems were out of commission and numerous buildings were badly damaged or destroyed by falling trees. George W. Reed, Associate Engineer, "Final Report Emergency Construction, Account 603," March 27, 1939, File 801-04 ("storm"), Box 68, RG 79, NARA, San Bruno, California.

²²⁹ Often called the "Loop Road" by area residents (a reflection of the degree to which it provided loop access between Redding, Red Bluff and the park, NPS officials preferred that the name designation apply more specifically to the road's role within the park. A 1952 "catechism" for new employees at Lassen Volcanic National Park, prepared by the Park Naturalist in cooperation with the Lassen National Park company, reminded employees that "The Loop Highway is a misnomer – there is no such thing." "Yes, MA'M. . . . A Catechism for New Employees at Lassen Volcanic National Park," 1952. File 504, Box 53, LAVO Collection, WACC.

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an effort spearheaded by A. L. Conard of the Lassen Volcanic National Park Association, a private organization dedicated to encouraging tourist traffic in the northern California region. The National Park Service, in cooperation with the United States Forest Service, conducted a preliminary reconnaissance survey in 1921 and identified a route running from Forest Highway 71 (connecting to Mineral), thence along the southern and eastern flanks of Lassen Peak to Manzanita Lake, connecting with Forest Highway 77 at the Viola/Burney Wye, a total distance of 30.4 miles. This route was formalized in subsequent surveys in 1923 and 1924. In 1929, by an Act of Congress, the park boundary was extended to the northwest and Manzanita and Reflection Lakes and a volcanic wasteland called "The Jumble" were included within the park boundaries. Accordingly, the route was extended from the beginning of Section B, near the old park boundary, to the new boundary west of Manzanita Lake. The Bureau of Public Roads completed all grading by 1929 and the road was surfaced and dedicated in 1931. Forest Highway Route 79, running from Mineral to Morgan Springs and the Southwest Entrance, was completed using Forest Highway Funds.²³⁰ (See National Register nomination associated with this Multiple Property Submission and also recent HAER documentation of the road [Provencher and Warner, National Park Service, 2002].)

With the initiation of the ECW/CCC program in 1934 (see below), the Park Service turned its attention from "major [road] construction" to "post construction," or beautification and maintenance. These efforts included slide removal, roadside quarry "dress up," slash disposal, bank flattening, landscape planting, and scarred-tree removal. More substantive efforts included reconstruction of a section of road between the park southern boundary and Sulphur Works, where steam vents were damaging the road, and reconstruction of the Hat Creek culvert.²³¹

Buildings and structures associated with the roadway include the Northwest (Manzanita Lake) and Southwest Entrance stations and the Raker Memorial Gateway entrance portals.

Park administrators also appropriated roads constructed by previous inhabitants and visitors. These included the Nobles Emigrant Trail, "large sections" of which were used for tourist travel and administrative use (including the Lost Creek and Hat Creek/Badger Flat/Cinder Cone truck trails); the Butte Lake road, a "lightly constructed," only-barely-graded truck trail constructed prior to 1916 to provide access to Butte Lake fishing and hunting opportunities; the Warner Valley Road into Drakesbad, constructed ca. 1880 by Warner Valley ranchers and Drakesbad settler Roy Sifford; a rough wagon road from Morgan Springs (near today's Southwest Entrance) to Sulphur Works, constructed by Mr. Supan, initial developer of the Sulphur Works; and the Chester to Juniper Lake Road, constructed by George Olsen, under contract to Juniper Lake Resort owner C. P. Snell and later revised and upgraded by the Red River Lumber Company.²³² These roads predated park designation yet "provided for needed access to areas in a manner agreeable with Service policy" and had therefore been incorporated within the Master Plan.

²³⁰ George W. Reed, "A History of the Lassen Peak Highway including the Original Contract Construction, 1925-1931 and the Complete Post Construction from 1930 to January 1, 1939, File 630, Box 61, RG 79, NARA San Bruno; W. J. Nelson, Assistant Highway Engineer, "Final Construction Report on the Base Course Surfacing of Section B, SW Approach Road to Lassen Volcanic National Park," March 19, 1936, Folder: Final Construction Report on the Base Course Surfacing of Section B, SW Approach Road, Box 3, LAVO Collection, WACC.

²³¹ George W. Reed, "A History of the Lassen Peak Highway including the Original Contract Construction, 1925-1931 and the Complete Post Construction from 1930 to January 1, 1939, File 630, Box 61, RG 79, NARA San Bruno; W. J. Nelson, Assistant Highway Engineer, "Final Construction Report on the Base Course Surfacing of Section B, SW Approach Road to Lassen Volcanic National Park," March 19, 1936, Folder: Final Construction Report on the Base Course Surfacing of Section B, SW Approach Road, Box 3, LAVO Collection, WACC.

²³² John C. Preston, Superintendent, Memorandum for the Regional Director, Region IV, May 27, 1940, File 630 (Roads Part I), Box 61, RG 79, NARA, San Bruno.

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In addition to roads, the Park Service committed to development of "footpaths and saddle horse trails to the points of detailed interest."²³³ (See Day Use Facilities below.)

Administrative Resources

Administrative facilities were similarly concentrated at Mineral Headquarters (determined eligible for listing in the National Register of Historic Places), outside the boundaries of the park at a 75-acre site where improvements "did not interfere with the park scene." To the dismay of the Shasta County Chamber of Commerce, which had actively lobbied for administrative facilities at Manzanita Lake or Viola (most-easily accessed from Redding and other Shasta County communities), the Park Service chose the Mineral site by virtue of the all-season through-road between Red Bluff and Susanville.²³⁴ Though completed during the CCC era, Mineral Headquarters was largely planned, and construction initiated, in the late 1920s. Distinct areas included a utility area, a residential compound, and the central administrative building. Construction completed before the infusion of cash and labor that marked the Depression-era included the central administrative building; a barn and equipment shed within the utility area; employee residences; a parking area behind the administrative building; sewer and water systems; a hydroelectric 60' high rock dam and power plant on Battle Creek; and a rail fence designed "to keep the cattle off" the meadow separating the administrative and residential building clusters. The limited 1920s development reflected the limits of park administrative staff; through ca. 1925, permanent staff was limited to a park ranger and chief clerk. "Essentially," reports long-time ranger Lester Bodine, the park was administered from Yosemite.²³⁵

Additional seasonal administrative facilities developed during the 1920s and 1930s included ranger stations at Summit Lake, Butte Lake, Warner Valley, and Horseshoe Lake; park naturalist residence and office at Manzanita Lake, patrol cabins at Lake Helen and Lower Twin Lakes; and fire lookouts at Prospect Peak (built by the USFS prior to park designation) and Mount Harkness. The Brokeoff Mountain lookout, located just west of the park, was operated under a cooperative interagency agreement with the Forest Service. Telephone communication had been established between front-country facilities and all outlying ranger stations and lookouts. Future administrative centers were contemplated only at Juniper Lake.²³⁶

Day Use Facilities

Interpretation (one of two "day-use categories") was centered at the privately-built and operated Loomis Museum at Manzanita Lake and at interpretive signs and short trail networks along the Lassen Park Highway. In 1927, Benjamin Loomis, area pioneer most famous for his photographs of the eruption of Lassen Peak, constructed the Mae Loomis Memorial Museum at Reflection Lake, in memory of his daughter. With passage of the park expansion bill (adding Reflection and Manzanita lakes to the park boundary), Loomis donated the museum to the Park Service under the condition that he and his wife Estella be allowed to live on the property and be allowed to operate the B.F. Loomis Photo and Art Store. The museum would be run by the National Park Service.²³⁷

²³³ George E. Goodwin, Chief Civil Engineer, National Park Service, "Preliminary Report," reprinted in Mrs. Frederick H. Colburn (Frona Eunice Wait), *The Kingship of Mt. Lassen. At Present the Only Active Volcano on the Mainland of the United States. In the Past California's Greatest Benefactor* (San Francisco: Nemo Publishing Company, 1922), pp. 66-67.

²³⁴ See, for example, Lester D. Bodine interviewed by Ruby Swartzlow, Oct. 31, 1973. Association for Northern California Records and Research and California State University, Chico, Oral History Program. California State University, Chico, p. 7.

²³⁵ Lester D. Bodine interviewed by Ruby Swartzlow, Oct. 31, 1973, p. 8.

²³⁶ George E. Fogg, Landscape Architect, *Master Plan for the Preservation and Use of Lassen Volcanic National Park*, "Chapter 5, Design Analysis, General Development," December 23, 1959, passim; Richard G. Prasil, Park Naturalist, *Master Plan for the Preservation and Use of Lassen Volcanic National Park*, "Chapter 1, Objectives and Policies," November 23, 1959, pp. 5-6.

²³⁷ Strong, *Footprints in Time*, p. 79.

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Trail networks included the Lily Pond Self-guided Nature Trail near the Loomis Museum, providing access to objects of natural history interest; the Bumpass Hell Self-guided Nature Trail to Bumpass Hell hot spring basin (a park-service reconstruction of the extremely steep trail built by early-period travelers); and the Butte Lake Cinder Cone Nature Trail. Interpretive signs were located along the highway at Chaos Crags and Jumbles, Nobles Pass, Hot Rock, Devastated Area, and Emerald Lake.

Campfire Circles, constructed at Manzanita and Summit Lake campgrounds, also served as central components of the interpretive network. By the 1950s, an average of 300 people attended the nightly lectures at the Manzanita circle. The long-standing program pattern, Schulz reported, consists of "introductory remarks concerning the National Park Service and its [sic] policies followed by about 15 minutes of group singing of old favorites, then announcements concerning protection and the next day's interpretive activities. The last and most important item on the agenda is a talk by the naturalist pertinent to the area."²³⁸ The Summit Lake program, similar in content, attracted an average of 50 people per lecture.

Recreation (the second day-use category) was concentrated on the park's numerous lakes and streams and was facilitated by NPS-constructed docks, picnic areas, and a horse- and foot-trail network. Principle components of the recreation-trail network included the Lassen Peak Summit Trail; the Summit Lake – Warner Valley Trail; the Summit-Lake – Twin Lakes Trail (via Echo Lake), and the Kings Creek – Black Butte Meadows – Sulphur Works Campground Area Trail. Many of these trails followed natural lines of travel, replacing "game or cattle trails throughout the park [over which] the average tourist, without a guide, would lose his way."²³⁹ Through at least the 1930s, saddle-horse concessioners operated from Kelly Camp and Lee's Camp in the Warner Valley, just outside the park, Drakesbad Resort, and the Juniper Lake Resort.²⁴⁰

Picnic areas, associated with each major campground and also located at Emerald Lake, Manzanita Lake, Reflection Lake, and Lake Helen, included native-stone campstoves and picnic tables. Manzanita and Butte Lakes were stocked with game trout, enhancing fishing opportunities.²⁴¹

In addition, a ski area, constructed in 1934 following completion of the Lassen Peak Highway and operated by the Park Service under a concession contract, served over 10,000 skiers ca. 1938 and over 15,000 skiers by the winter of 1958. The area, at 6800', provided "unexcelled" snow from December through May and was located in an area of "unlimited open slopes of varying degrees, suitable for both the beginner and the experienced skier."²⁴² Superintendent Preston argued, in 1938, that it also was more than a simple sports venue (a mere place to "slide downhill" and witness "competitive athletic exhibitions") but was, instead, central to the Park Service's mission to make the park's wonders accessible and comprehensible: "skiing is becoming the medium whereby winter visitors may have access to and enjoy the scenic beauty and interesting features of the park, formerly closed to them. . . . It seems that the old term, "winter sports," as applied to skiing in the park, might well be changed to "winter use" or "winter enjoyment."²⁴³ Preston clearly was aware of the contradiction between the park's mission to protect the land while still making it accessible and

²³⁸ Paul E. Schulz, Park Naturalist, *Master Plan for Use and Development*, "Interpretation," March, 1952, p. 17.

²³⁹ W. P. Moore, Acting Superintendent, to the Director, January 30, 1937, File 640 part I, Box 63, LAVO Collection, WACC.

²⁴⁰ John C. Preston, Superintendent, "Annual Report, 1937," no date [ca. 1938]. Unaccessioned Historic Material, LAVO, p. 6.

²⁴¹ "First Planting of Manzanita Lake with State Hatchery Fry," notes taken by Jr. Park Naturalist H.B. Robinson from interview of Wm. Rice, August 26, 1943, File 207 Part III, Box 46, RG 79, NARA San Bruno, p. 1.

²⁴² Harry B. Robinson, Park Naturalist, "Report of the Committee on Winter Sports Opportunities and Possibilities in the Northern Sierra and Southern Cascade Areas," no date, File 207, Part IV, Box 46, RG 79, NARA, San Bruno. Park Ranger Lester Bodine remembers that the ski area began operation in 1938, at a site above the Sulphur Works thermal area. Lester D. Bodine interviewed by Ruby Swartzlow, Oct. 31, 1973, p. 2.

²⁴³ John C. Preston, Superintendent, "Annual Report, 1937," no date [ca. 1938]. Unaccessioned Historic Material, LAVO, p. 14.

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enjoyable to the greatest number of people and his report portents the removal of the ski area 50 years later. In the intervening years, however, the ski area would enjoy rapid growth, great popularity, and would earn a remarkable degree of affection from area residents who remember their excursions to the slopes of Mount Lassen with great fondness.²⁴⁴ Ski-area amenities included a warming hut (the first, located near the Sulphur Works fumeroles, was destroyed by heavy snow during the winter of 1941-42 and was replaced with two discarded CCC buildings), a rope tow, and a Pomalift (added ca. 1947 when visitor use increased after the war). A more elaborate lodge was constructed in 1966, providing a cafeteria, rental shop, and warming area.²⁴⁵

Campgrounds

By the late 1930s, campgrounds were located near all of the major entrances – at Manzanita Lake, Sulphur Works, Butte Lake, Warner Valley, and Juniper Lake – and in the center of the park, at Summit Lake and Kings Creek. In addition, group camp sites and amphitheatres/public campfire areas had been established at Manzanita Lake and at Summit Lake and were particularly well-used by local scout troops and area church groups (see interpretation, above).²⁴⁶ This extensive network both reflected and enhanced the park's reputation as the "Camping Park," a summer refuge of both out-of-state tourists and also of northern California residents who would escape the heat of the inland valleys by spending the summer months in the park; William (Billie) Wagoner of Millville, for example, "never forgot . . . the pleasure of camping, a month at a time, at Lassen Volcanic National Park, climbing the mountains, going on nature hikes, participating in Camp Fire gatherings, and just relaxing under the pines."²⁴⁷ (Not until 1968 did the park attempt to limit the length of visitors' stays, instituting a 30-day maximum. Through the 1960s, the National Park Service provided General Delivery addresses for those who wished to have their mail forwarded during their extended stays at the Butte Lake, Juniper Lake, or Warner Valley campgrounds.)

Lodging

In-park lodging was available only at Drakesbad Guest Ranch, a private inholding in the southeast corner of the park, at Sulphur Works where the Supan family operated a small hot springs resort on a private inholding; at Manzanita Lodge, a concession-run facility in the northwest corner of the park; and at Juniper Lake Resort where small cabins were available for rent.

Manzanita Lake, incorporated within the park in 1929, served as the primary developed area within the park, providing administrative, recreation, interpretive, and concession facilities for travelers along the Lassen Peak Highway. NPS facilities included a ranger station, park entrance checking station, museum, and campground. Concession facilities, operated under NPS concession license and maintained and modified under the careful eye of NPS landscape architects, included the Loomis Photo and Art Store (see Day-use Facilities, above) and the Manzanita Lake Lodge and Cabin complex.

Located on land gifted to the National Park Service by Pacific Gas and Electric Company in 1931, the lodge complex was built and operated by Charles E. Keathley and Don Hummel of Lassen National Park Camp, Ltd. and operated under

²⁴⁴ See especially Pam Koeberer Pitt, interviewed by Ann Emmons, Historical Research Associates, Inc. February 2002. Transcript on file with the National Park Service, LAVO.

²⁴⁵ Dorr Yeager, "National Parks in California," *A Sunset Travel Book* (Menlo Park California: Lane Book Company, 1964), p. 92. In addition, a small rope-tow ski area was operated at "Eskimo Hill," just outside the park's north entrance. Lester D. Bodine interviewed by Ruby Swartzlow, Oct. 31, 1973, p. 8.

²⁴⁶ Rangers Monthly Reports, LAVO Collection, WACC, passim.

²⁴⁷ Rosemary S. Wagoner, "The Wagoner Family, Pioneers of Shasta County," *The Covered Wagon* (Redding: Shasta County Historical Society, 1962, p. 37.

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permit from the National Park Service. In the summer of 1933, the nascent company constructed a lodge and nine cabins using \$10,000 of seed money advanced by a classmate of Hummel's.²⁴⁸ In addition to accommodations, gasoline and oil, groceries and camping supplies, and boat rentals on Manzanita and Reflection lakes were available. As the business prospered, the company added a large dining room, housekeeping cabins, and a lodge addition. Tent cabins and a cafeteria were added in 1947, to accommodate the post-war rush, and by the 1960s, *Sunset* Magazine advertised the complex as "the largest, best-equipped and most comfortable place to stay in Lassen, with housekeeping cabins (complete with kitchen and "pleasing in appearance and satisfactory in use"²⁴⁹), small two- and four-room cabins with shared baths, and bedrooms within the main lodge ("the most luxurious" rooms of all).²⁵⁰ Employees were first housed in "Tent City," composed of canvas tents set on wooden platforms and later in "Summertown," a complex of small wood-frame buildings.²⁵¹ (See Manzanita Lake Naturalist's Services Historic District National Register Nomination associated with this Multiple Property Submission.)

Drakesbad, in contrast, "was the place to go if you aren't looking for people. It's quiet and restful and the kind of place where everyone knows everyone else within a few hours of their arrival." (Or, more accurately, where everyone had known everyone for years. In 1952, Park Service officials wrote "it is our understanding that Mr. Sifford has very largely the same guests every year and that they stay right through the summer season.")²⁵² Facilities, adequate for 50, included a main building containing hotel rooms and lobby, a dining hall, a spring-fed swimming pool, furnished cabins, and miscellaneous horse-care facilities. Recreational opportunities afforded ranch guests included pack trips to Lassen Peak and Devil's Kitchen.²⁵³

One mile north of the Southwest Entrance at the Sulphur Works, on 100 acres of land claimed variously in 1892 and 1917 as homestead and mineral claim, the Supan family had constructed a substantial tourist complex. By 1942, the complex contained a bathhouse built over the steam vents, four overnight cabins, a dining room (known locally as the Chicken Shack), a gas station, and a gift and souvenir shop. In December 1948, park staff reported inauguration of a new 500-foot long "shuttle type ski tow" on the Supan property, in competition with the Park Service lift. Moreover, the Supans advertised sale of homesites and timber on an adjoining 60 acres near Lake Helen (part of Angeline Supan's 1892 homestead).²⁵⁴

At Juniper Lake, landowner C.P. Snell responded quickly to park designation and Park Service maintenance of the 13.3 mile access road from State Highway 36, developing the Juniper Lake Resort and Subdivision. By ca. 1935, the complex included 1,532 lots (most undeveloped) and a public-use compound containing a 40-bed lodge, a store, twelve single-story guest cabins (ranging in size from 160 to 288 square feet), 16 canvas-sided, wood floor "housekeeping" tents, a bath house, a garage, a tank house, a small storage building, a 56-square foot playhouse, and a communal kitchen for those using the housekeeping tents. Fifteen row boats were available for rent. (A 1937 fire destroyed the lodge and

²⁴⁸ Lester D. Bodine interviewed by Ruby Swartzlow, Oct. 31, 1973, p. 4.

²⁴⁹ Ernest A. Davidson, "Notes on Branch of Plans and Design Items, Lassen Volcanic National Park, Regional Landscape Architects Visit, Sept. 1940," File 207, Part I, Box 46, RG 79, NARA, San Bruno, p. 3.

²⁵⁰ Dorr Yeager, "National Parks in California," p. 92.

²⁵¹ Lester D. Bodine interviewed by Ruby Swartzlow, Oct. 31, 1973, p. 4.

²⁵² Assistant Regional Director to The Director, November 20, 1952. Unaccessioned Historic Material, LAVO.

²⁵³ Dorr Yeager, "National Parks in California," p. 92.

²⁵⁴ Strong, *Footprints in Time*, pp. 79-80.

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Snell declined to rebuild.) In 1954, when the Park Service ordered an appraisal preparatory to purchase, the store reportedly "did a good business" and the rental cabins were filled "most of the summer."²⁵⁵

Western Pacific Railroad

This limited assortment of visitor services evolved in part due to debate over the wisdom of infringing upon the park's wilderness character, in part as a practical response to the park's proximity to communities where additional accommodations and services were available, and in part due to the absence of outside funding sources willing to assume the high price of resort development; Lassen lacked a rail/hotel monopoly such as was common in other western parks.²⁵⁶ Historically as today, direct access to the park could be gained only by automobile, with rail and air travelers dependant upon bus connections to the park.

Passenger trains on the Southern Pacific Railroad's Shasta Route stopped daily at Red Bluff and at Redding; beginning in the 1930s the Manzanita Lodge concessioner operated a bus line between the Redding Southern Pacific station and Manzanita Lake on a single round-trip per day schedule, tied to the train's arrival and departure. Commercial bus lines operated a "stage" between Red Bluff and Susanville, with a stop at Mineral; the park concessioner provided connection with this stage line on an on-call basis. "No direct or reasonably convenient" connecting service was available from the Western Pacific Railroad's Keddie Station, 58 miles south of Mineral.²⁵⁷

In 1930, Western Pacific Railroad officials filed application with the Park Service to provide concessions – "these to include housing facilities as well as transportation" – within Lassen Volcanic National Park. "It is the railroad's purpose," NPS Director Albright wrote, "to operate a 'detour' from their railroad to and through the park, taking passengers off of the southbound trains at Poison Lake and putting them on at Westwood; and for northbound passengers reversing the route."²⁵⁸ In September of that same year, Lassen staff entertained officials of the Western Pacific Railroad who were making their second visit to the park in search of a hotel site that could be easily accessed from Keddie station and by way of the "through road" under debate at that same time. Railroad officials were accompanied by architect Gilbert Stanley Underwood, best known for design of the rustic hotels and cabin complexes at Yosemite and the Southern Utah parks. Although "everyone" was reportedly pleased with the prospects for a tourist development on the west side of the Juniper Lake outlet, Western Pacific Railroad officials remained concerned about the number of private inholdings in the area and the possibility that land owners would construct competing facilities or unsightly improvements, all outside the purview of the National Park Service and its landscape architects. Soon, too, economic depression would seize the nation and western rail travel would fall dramatically as private car ownership increased and as the middle class, independently mobile, came to dominate national park traffic. Ultimately, the railroad declined to

²⁵⁵ W.J. Brokenshire, District Ranger, United States Forest Service, "Valuation Report Juniper Lake Tract Lassen Volcanic National Park," File: Inholdings, LAVO Collection, WACC, pp. 11-13.

²⁵⁶ System-wide, the development of national park facilities tailored to the demands of American tourists was the responsibility of both concessioners, who sought profits, and of the National Park Service, which had a statutory mandate to preserve the national parks for the maximum enjoyment of the public. A national concession policy was first instituted at Yellowstone National Park during the late nineteenth century. The creation of Yellowstone National Park in 1872 coincided with public distrust of government management and of monopoly. Private enterprise, subject to the laws of competition and spared the taint of monopoly's abuses and government's inefficiency, was believed best able to meet public needs. Thus the act providing for Yellowstone National Park stipulated that private enterprise would develop the park's visitor facilities under restrictions established by the Interior Department.

²⁵⁷ Merel S. Sager, Assistant Landscape Architect, to Thomas Vint, October 22, 1930, Landscape Architect Reports, Lassen Volcanic National Park 1929-1930, File 630, Box 61, RG 79, NARA San Bruno.

²⁵⁸ The Director to Harry L. Englebright, September 3, 1931. Unaccessioned historic material, LAVO. Juniper Lake would have been most directly accessible to those traveling on the Fernley & Lassen route between Susanville and Westwood, constructed by the Southern Pacific in 1912. See Chapter Five.

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invest in Juniper Lake development and no rail-hotel network was constructed.²⁵⁹ Lassen would remain "The Camping Park."

National Park Service Rustic Architecture and the Master Planning Process²⁶⁰

In their reflection of pioneer building techniques or their adherence to rustic architecture, Lassen Volcanic National Park administrative and concession buildings and structures complied with design standards developed by the National Park Service in the 1920s and 1930s. Most complied with the park's Master Plan for Development and Use written in 1933 and most were constructed between 1933 and 1941 when President Franklin Delano Roosevelt's New Deal allowed the most concerted construction phase in the park's history. These major themes in National Park Service administrative history – rustic architecture, the master planning process, and Depression-era funding – are detailed below.

Landscape architect Ethan Carr argues that, while the NPS has been defined as a "New Deal agency" for which both staff and mandate expanded dramatically in response to New Deal funding, in fact the reverse is also true: programs, plans, and technical expertise developed by the Park Service in the 1920s greatly influenced the course and direction of New Deal conservation and development programs.²⁶¹ This technical expertise related in large part to theories of landscape design, as summarized by NPS Director and landscape architect Arno Cammerer:

In any area in which the preservation of the beauty of Nature is a primary purpose, every modification of the natural landscape, whether it be by construction of a road or erection of a shelter, is an intrusion. A basic objective of those who are entrusted with development of such areas for the human uses for which they are established, is, it seems to me, to hold these intrusions to a minimum and so to design them that, besides being attractive to look upon, they appear to belong to and be a part of their settings. . . . Though a park structure exists solely for the use of the public, it is not required that it be seen from some distance. In its most satisfying expression, the park structure is designed with a view to subordinating it to its environment, and it is located so that it may profit from any natural screening that may exist . . . As a rule, park structures are less conspicuous and more readily subordinated to their settings when horizontal lines predominate and the silhouette is low . . . [However,] since the concession building must be located at the 'crossroads' of the park, and must proclaim itself to the public, it cannot be exactly the shy violet among park buildings. It must announce its commercial traffic unmistakably but with subtlety. It is the Jekyll and Hyde among park structures.²⁶²

This philosophy, which appeared in a 1935 Department of the Interior publication *Park Structures and Facilities*, had governed architecture within the National Park Service since 1918. Conceived during the formative years of the NPS under the directorship of Stephen T. Mather, this architectural style was titled "rustic," and drew heavily from nineteenth-century landscape design. Andrew Jackson Downing, noted horticulturist of the nineteenth-century, published his ideas on "picturesque" landscape and architectural design in his book *Cottage Residences*. Frederick Law Olmsted, Sr., a student of Downing, emphasized the connection between landscape and architecture by incorporating "natural" materials, such as native stone, log and timber, into his designs. As building forms blended to their surroundings, it was apparent that landscaping would become an integral part of architectural design.

²⁵⁹ Merel S. Sager, Assistant Landscape Architect, to Thomas Vint, October 22, 1930, Landscape Architect Reports, Lassen Volcanic National Park 1929-1930, File 630, Box 61, RG 79, NARA San Bruno.

²⁶⁰ Unless otherwise cited, this discussion is taken from NPS historian Linda McClelland's Multiple Property Submission *Presenting Nature: The Landscape Design of the National Park Service, 1916-1942* (Washington, D.C. USDI NPS Interagency Resources Division, National Register of Historic Places, 1993). See also McClelland's published work *Building the National Parks, Historic Landscape Design and Construction* (John's Hopkins University Press, 1998), an updated and expanded edition of *Presenting Nature*, absent the cultural resource management component.

²⁶¹ Carr, *Wilderness by Design*, p. 258.

²⁶² Cammerer quoted in introduction to Anonymous, *Park Structure and Facilities* (Washington D. C.: USDI NPS Branch of Planning, 1935), pp. Forward, 4, 5, 95.

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Following the establishment of the NPS in 1916, and its landscape division two years later, Park Service officials attempted to reconcile the incongruities of manmade improvements within national parks by developing a landscape-architecture philosophy and of an architectural style compatible with the environment and with the parks' pioneer history. This style was to compliment both the natural and the cultural environments. By the 1920s, an NPS "rustic" style had evolved. NPS architect Albert H. Good, in his 1938 three-volume primer on outstanding examples of rustic design, described the style as one that "through the use of native materials in proper scale, and through the avoidance of rigid, straight lines and over sophistication, gives the feeling of having been executed by pioneer craftsman with limited hand tools. It thus achieves sympathy with natural surroundings and the past."²⁶³

While pioneer vernacular was a practical response to environmental and economic dictates, formal rustic architecture represented the deliberate attempt to convey historical images and to meld man-made resources with their wilderness environment; NPS architects were encouraged to develop local variations that reflected the history of each park.²⁶⁴ These pioneer standards were to a small degree imposed upon the Park Service by the same geographic and environmental restrictions faced by area pioneers. The absence of supply outlets (and the federal government's reliance upon stock orders) resulted in repetitive use of standard materials. Low-standard local backcountry transportation systems mimicked those faced by the earliest settlers – cement, glass, and hardware added substantially to the cost of backcountry construction and were therefore kept to a minimum. Any milled lumber used was cut to a maximum length of 8' – the longest board that would fit a pack saddle.

In regard to buildings, standard floorplans, allowing development of efficient design solutions, emerged to fill the need for entrance stations, administration buildings, comfort stations, community buildings, lookouts, and museums; these were employed with little variation throughout the NPS system. In contrast, exterior design called for durability and, above all, harmony with the specific characteristics of each location not only through the use of native materials but also through appropriation of the local vernacular style. Principles of rustic design were applied not just to buildings but to all manmade intrusions upon the landscape. NPS landscape architects encouraged the protection and preservation of views and vegetation; prohibited the importation of exotic plants; and used naturalistic techniques in planting, rockwork, or logwork.²⁶⁵

This myriad of visitor services was linked not only by a shared design ethic, but also by park roads that controlled visitor access to services, as well as to views and vistas, and that represented the primary manmade intrusion on the natural landscape. Roads were conceived not only as a prosaic means of access, but also as a primary tool in the larger goal of defining and improving the visitor experience.²⁶⁶ Beginning in 1924, Congress granted appropriations annually for the development of roads and trails in national parks. Upon receipt of this first appropriation, NPS landscape engineer Daniel Hull wrote the first formal standards written specifically for park roads. As described by historian Laura Souilliere, Hull's treatise "stressed that the design of roads, should aim for maximum scenic vantage points." Monotony was to be avoided, through transitions in vegetation, light, shade, and view.²⁶⁷ In 1926, the service signed a cooperative

²⁶³ Albert H. Good, *Park and Recreation Structures, Part I – Administration and Basic Service Facilities* (Washington D. C. : Government Printing Office, 1938), pp. 4-5.

²⁶⁴ McClelland, *Presenting Nature*, p. 199.

²⁶⁵ McClelland, *Presenting Nature*, passim.

²⁶⁶ Carr, *Wilderness by Design*, p. 1.

²⁶⁷ Laura E. Souilliere, *Historic Roads in the National Park System* (USDI NPS Denver Service Center Special History Study, 1995).

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agreement with the Bureau of Public Roads, whereby park designers set aesthetic standards of workmanship, location, and design of roads²⁶⁸ while bureau engineers provided the latest technology and engineering acumen.²⁶⁹

Between 1932 and 1934, the National Park Service devised standards, exhausting in their detail, for national park road construction. When building stone guardrails, entrance portals, and signs, for example, larger stones were to be placed at the base of the wall, creating a battered appearance. Weathered surfaces were to be placed to the outside; patterns were to be random, avoiding straight lines; stonework was to be blended as and when possible with surrounding outcrops. Wall heights averaged 18 to 24 inches, allowing visitors to look across them to the views and vistas. In vertical mountainous environments, crenellations added a vertical line and removed the monotony of the wall surface.²⁷⁰

Concerned with landscape preservation and harmonization, the landscape engineers called for special practices of clearing, blasting, cutting and filling, rounding and flattening slopes, bank blending, and planting that harmonized with the natural environment. Standards for primary roads generally conformed to highway standards, including (through the 1930s) 20 foot road width, with 3 foot shoulders on both sides, for a maximum roadbed width of 26 feet and a "design speed" of 40 miles per hour. Along the road corridors, overlooks, pull-outs, or spur roads were constructed "in order to develop the main scenic points of attraction" – a deliberate cultural attempt to present the natural environment. Slopes were to be stabilized by means of revegetation (when possible), wooden cribbing, or concrete cribbing camouflaged with rubble masonry. To "relieve monotony," and as allowed by native vegetation, setbacks were varied, creating an undulating line between the built and the natural environment. In most instances the structural aspects of bridges were tailored to each unique application, with choice of material and design following the tenets of landscape architecture.²⁷¹ Center lines, which imparted a "sophisticated or city-like appearance" were to be avoided except in areas of heavy traffic congestion.²⁷²

Master Planning

Nationwide, a program for general planning began in the mid-1920s to enable park superintendents to schedule the construction and improvement of park roads and other facilities over a five-year period. By 1932, in coordination with depression-era funding that made extensive development possible, this design process had evolved into a program of master planning that programmed all park improvements for a six-year period.²⁷³ By 1939, it encompassed the many emerging programs of the National Park Service, from engineering and forest protection to interpretation and recreation.²⁷⁴

Rustic Architecture in Lassen Volcanic National Park

Rustic architecture is defined both by its reliance upon native building materials and also by its reliance upon pioneer forms that evolved in response to topographic, cultural, and climatic characteristics unique to each park. Within Lassen Volcanic National Park, rustic buildings and structures were therefore constructed of shakes, logs, rough-cut milled

²⁶⁸ As first presented by Hull and subsequently expanded and modified by Thomas Vint, Thomas Carpenter, Arno Cammerer and others.

²⁶⁹ Souilliere, *Historic Roads in the National Park System*, pp. 52-55. See Souilliere, pages 40-65, for a detailed discussion of the evolution of park-road standards in the 1920s and 1930s, and the workings of the NPS/Bureau of Public Roads interagency agreement.

²⁷⁰ Souilliere, *Historic Roads in the National Park System*, pp. 53, 65.

²⁷¹ Souilliere, *Historic Roads in the National Park System*, pp. 53-54.

²⁷² Arno Cammerer, quoted in Souilliere, *Historic Roads in the National Park System*, p. 55.

²⁷³ See especially Carr, *Wilderness by Design*, pp. 249-251.

²⁷⁴ Carr, *Wilderness by Design*, p. 265.

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lumber, and stone and were built to withstand the heavy snow loads typical of the region. In 1937, park superintendent E. P. Leavitt reminded Regional Landscape Architect Ernest A. Davidson that:

Lassen lies in the heaviest snow belt in the state of California, and at Mineral Headquarters [designed for year-round use] snow gets to a maximum depth of 9' on the level, and the period of snowfall is from October to June. . . . The minimum temperature, as officially recorded, has gone as low as 13 degrees below zero, and this makes great quantities of ice to be combatted [sic].

Leavitt (after finding a sympathetic ear in NPS Chief Architect Thomas Vint) therefore mandated that all buildings used during the winter months – those at Mineral headquarters – be approached "from the gable end because it is impossible to keep access to the buildings open under the eaves where great quantities are piled up as it slides from the roof." Side-slope construction was also to be avoided in winter-use areas, given the difficulty of clearing access roads. Buildings were to be well insulated, built to accommodate storm doors and windows, and windows were to be screened "to afford some protection to the window glass from snow and ice thrown by the Snogo." Casement windows, which opened into snow drifts, were "entirely unsatisfactory." Whenever possible, residences were to be built with basement drying rooms for use "when snow depths prevent the use of clothes lines outside." Though wood had long been the primary heat source, Leavitt reported that it proved increasingly expensive to secure and recommended installation of oil-burning furnaces in new and existing residences.²⁷⁵

Those buildings not inhabited during the winter were still modified to accommodate the extreme snow loads, most often incorporating design modifications first pioneered by Euroamerican settlers. Chimneys, for example, were hooded and braced, and placed near the ridgeline to avoid undue stress on the gable slope; elaborate roof systems, with multiple valleys, were to be avoided as valleys proved most susceptible to roof leaks.²⁷⁶

Snow-load accommodations extended to structures as well as buildings: of most note, road specifications demanded greater width and more gradual curves to allow for snow and ice accumulation and for the frequent passage of snow-removal equipment.²⁷⁷

In other instances, regional design represented an exaggerated vision of pioneer styles, with aesthetic appeal – drawn from deliberate architectural quotes of historical styles – proving more important than historical accuracy. Of the split-rail fences built at Headquarters in 1940, for example, Regional Landscape Architect Ernest A. Davidson wrote:

the rail worm-fence along the front of headquarters grounds is of good appearance; rather too good to be a replica of old time rail fences since the rails are exceptionally heavy. In my opinion we need not try to duplicate the old fences to the extent of copying their weaknesses; the good impression is there, and the fence is more durable than fences the pioneers built.²⁷⁸

In acknowledgement and continuation of Lassen's dominant use as a "Camping Park," campground (and picnic area) improvements were accorded a remarkable amount of study, with landscape architects devoting time to identification of a preferred stove height ("60% of the campers desired a stove height of at least 18" or slightly over")²⁷⁹ and stove type

²⁷⁵ E. P. Leavitt, Superintendent, to E. A. Davidson, Regional Landscape Architect, April 7, 1937. Landscape Architects Reports, 1937, Box 7, LAVO Collection, Western Archaeological Center [WAC], Tucson, Arizona, p. .

²⁷⁶ E. P. Leavitt, Superintendent, to E. A. Davidson, Regional Landscape Architect, April 7, 1937. Landscape Architects Reports, 1937, Box 7, LAVO Collection, Western Archaeological Center [WAC], Tucson, Arizona, p. .

²⁷⁷ E. P. Leavitt, Superintendent, to E. A. Davidson, Regional Landscape Architect, April 7, 1937. Landscape Architects Reports, 1937, Box 7, LAVO Collection, Western Archaeological Center [WAC], Tucson, Arizona, p. .

²⁷⁸ Ernest A. Davidson, "Notes on Branch of Plans and Design Items," Lassen Volcanic National Park, Regional Landscape Architects Visit, Sept. 1940," File 207, Part I, Box 46, RG 79, NARA, San Bruno, p. 3.

²⁷⁹ Noble Hoggson, ECW Landscape Architect, "Campground Stove Report," no date," File 207, Part I, Box 46, RG 79, NARA San Bruno.

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("native rock, of rustic, unobtrusive design");²⁸⁰ to development of the perfect picnic table ("originally designed log tables and benches" shown in photographs as two massive log legs supporting two half logs)²⁸¹; and to development of the ideal communal campfire/lecture circle ("an elevated circular stone fire platform. . . surrounded by three concentric circles of 4 foot diameter logs . . . with ¼ cutout forming comfortable seats. . . . This arrangement has proven extremely satisfactory due to the cold evenings and has brought praise from many seasoned campers").²⁸²

In most cases, this attention to detail and the final designs corresponded to National Park Service design policy and to the plant pathologist E. P. Meinecke's theory of camp planning. In 1926, Meinecke identified human trampling and construction as destructive to the giant sequoias and other native plants in state, United States Forest Service (USFS) and NPS campgrounds throughout the redwood region. Compaction of soil and roots by constant trampling and automobile traffic proved a serious threat to native vegetation and therefore threatened "the slow but steady destruction of the very features that make these localities attractive."²⁸³ With the 1932 USFS publication of *A Camp Ground Policy*, Meinecke recommended revolutionary changes in campground design and management, designed to meet two objectives: the "fullest utilization of limited space compatible with increased convenience and comfort of the camper [or picnicker]" and "the permanent protection of the woodland character of the camp ground."²⁸⁴ Specifically, Meinecke wrote, "the ground must be gone over and divided up into individual campsites of legitimate sizes, each one offering approximately as much privacy, shade, and other advantages as the other." One-way spur roads (more narrow than 2-way and more conducive to a smooth flow of traffic), with individual "garage" or parking spurs to each campsite, would minimize chances that cars would leave the road system. Large boulders placed at road intersections and at parking spurs acted as further deterrents. Trees and shrubs between campsites were to be retained whenever possible, providing privacy and enhancing the visitor's experience. Fire grates/camp stoves, picnic tables, and tent sites were to be considered permanent fixtures in the visitor's temporary home. If logically placed, well-secured, and functional visitors would not rearrange them and excessive social trails between could be eliminated. This theory of development applied equally to picnic areas.²⁸⁵

By 1935, new campgrounds throughout the national park system were constructed according to the Meinecke Plan and older facilities were reconstructed with one-way roads, garage spurs, new plantings, and boulder barricades. NPS historian Linda McClelland reports "the term 'meineckizing' campgrounds became a common term among landscape designers and CCC supervisors in the 1930s and continued to be used into the 1950s."²⁸⁶

Lassen Campgrounds constructed after 1933 were constructed according to Meinecke's recommendations. (At Manzanita Lake, for example, sites were "designed so as to follow closely Dr. Meinecke's theory of camp ground design, and have proved quite popular.")²⁸⁷ At the close of the 1935 season Landscape Architect Noble Hoggson wrote "we were surprised and pleased at this time by an unexpected and short visit by Dr. Meinecke [sic] who paid us a compliment on

²⁸⁰ Anonymous, "Old Boundary Springs Camp, NP-1, Final Narrative Report, May-October 1934," no date, LAVO Collection, WACC, p. 11.

²⁸¹ Noble Hoggson, ECW Landscape Architect, "Campground Stove Report," no date, "File 207, Part I, Box 46, RG 79, NARA San Bruno.

²⁸² Armin M. Doerner, "Report to the Chief Architect through the Superintendent of Lassen Volcanic National Park, Season 1934," no date, Landscape Architect Reports 1934, Box 7, RG 79, NARA, San Bruno.

²⁸³ Meinecke quoted in Linda Flint McClelland, *Presenting Nature*, p. 162.

²⁸⁴ Meinecke quoted in McClelland, *Presenting Nature*, p. 164.

²⁸⁵ McClelland, *Presenting Nature*, pp. 162-163.

²⁸⁶ McClelland, *Presenting Nature*, p. 163.

²⁸⁷ Anonymous, "Old Boundary Springs Camp, NP-1, Final Narrative Report, May-October 1934," no date, LAVO collection, WACC, p. 11.

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our campgrounds and picnic ground stoves."²⁸⁸ Five years later, Regional Landscape Architect Ernest Davidson insisted upon "Meinecke-ization" of the Summit Lake Campground.²⁸⁹

Depression-Era Funding Programs

Ironically, deep-rooted economic depression, beginning in farm states in the 1920s and extending through the United States' entrance into World War II, allowed rapid expansion and development of the nation's park system. At the outset of his first administration, in the early years of the Great Depression, President Franklin Delano Roosevelt proposed to utilize the manpower of 250,000 men in public works projects. The two major programs to affect the development of national parks were (1) federal projects funded by emergency depression-era appropriations and administered through the Public Works Administration (PWA) and (2) Emergency Conservation Work (ECW) carried out by the Civilian Conservation Corps (CCC).

The Public Works Administration, created on June 16, 1933, by Executive Order 6174 under the authority of Title II of the National Industrial Recovery Act (48 Stat. 200), called for a comprehensive program of public works "to increase the consumption of industrial and agricultural products by increasing purchasing power, to reduce and relieve unemployment, to improve standards of labor and otherwise to rehabilitate industry and to conserve natural resources."²⁹⁰ As part of this program of consumption and employment, Congress channeled special allotments to fund capital improvements in the national parks, such as roads and buildings. The work itself was carried out according to National Park Service standards and design, with skilled labor provided by private craftsmen.

In contrast, Emergency Conservation Work (ECW) was an interagency effort involving the Departments of Labor, Army, Interior, and Agriculture and administered by an interagency advisory board. As authorized on March 31, 1933, under the authority of the Federal Unemployment Relief Act, ECW was carried out by camps of Civilian Conservation Corps (CCC) enrollees assigned to each geographic unit. CCC camps were established in national parks, national forests, wildlife reserves, state parks and forests, and Soil Conservation Service (SCS) units.

Despite the interagency nature of the ECW program – and the varied jurisdictions of the land base – the design principles, processes, and practices of the National Park Service guided development. In 1935, at the program's height, the NPS oversaw 600 CCC camps, 118 in national park units and 482 in state parks or recreation development areas, staffed by approximately 120,000 enrollees and 6,000 professional supervisors.²⁹¹ In 1937, the ECW program became an independent agency and was officially renamed the Civilian Conservation Corps. Work undertaken by the ECW/CCC included forest-improvement projects, construction and maintenance of fire breaks, clearing of campgrounds and trails, construction of fire and recreation structures, road and trail building, forest fire suppression, survey work, plant eradication, erosion control, bridge building, flood control, campground construction, and landscaping.²⁹²

Though funded through the National Park Service, the United States Army administered the camps. Arthur Ringland, an author of the program, remembers "the Army could mobilize equipment and meet the physical demands of camp construction and the like, carry on housekeeping functions, and provide medical facilities for the enrollees, and do these

²⁸⁸ Noble Hoggson, ECW Landscape Architect, "Report to the Deputy Chief Architect through the Superintendent of Lassen Volcanic National Park, June Thru October, 1935," Box 4, WACC.

²⁸⁹ Ernest A. Davidson, "Notes on Branch of Plans and Design Items," Lassen Volcanic National Park, Regional Landscape Architects Visit, Sept. 1940," File 207, Part I, Box 46, RG 79, NARA, San Bruno, pp. 2-3.

²⁹⁰ Quoted in McClelland, *Presenting Nature*, p. 196.

²⁹¹ Mackintosh, *The National Parks: Shaping the System*, p. 44.

²⁹² John C. Paige, *The Civilian Conservation Corps and the National Park Service. 1933-1942. An Administrative History* (U.S. Department of the Interior, National Park Service, 1985), p. 18.

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essentials expeditiously when time was of the essence in this whole country-wide enterprise." The physical characteristics and living conditions of the camps reflected this military orientation.²⁹³

Civilian Conservation Corps in Lassen Volcanic National Park

In 1933, an anonymous NPS architect described the "historical" scene earlier that summer in Lassen Volcanic National Park as the nation's legislative response to the Great Depression unfolded:

First news of the proposed public works legislation was contained in press dispatches and memoranda received from Washington. These, however, carried no definite information, other than the fact that \$50,000,000 would be allotted to the Forest Service and Park Service. Then followed a period of impatient waiting for news concerning the part that Lassen would take in the Public Works Program.

First definite word was received in the Director's letter of June 8, 1933, transmitting therewith a tentative program for Lassen Volcanic National Park. The aggregate amount of this program was \$69,000 for Physical Improvements other than Roads and Trails and \$198,000 for Roads and Trails. . . .

We were greatly pleased with the amount of funds and the number of projects tentatively authorized. Projects which we had visualized for construction in the future were included and we were generally pleased with the prospect of the two-year program.²⁹⁴

If only briefly, two CCC camps operated from Lassen Volcanic National Park, one at Boundary Springs (Camp NP-1, established May 1933) and one at Sulphur Works (Camp NP-2 [aka Southwest Camp], established May 1934), with temporary spike camps (averaging 20-25 men) established throughout the park nearer areas of intense activity, including at Warner Valley, Horseshoe Lake, Butte Lake, and Headquarters. During the 1934 season, both camps enrolled 188 men, with older men (war veterans) stationed at Boundary Springs and "boys" stationed at Sulphur Works. Park staff "vainly hoped" for continuation of both camps. The Sulphur Works camp was dismantled at the close of the 1935 season as a result of overall reduction in the CCC program and "strong demand from elsewhere." This sudden termination resulted in significant delays in south-park projects, with the burden of ongoing and proposed Camp 2 work transferred to Camp 1.²⁹⁵

Ongoing maintenance work included insect/pest control, fire hazard reduction, fire fighting, road and trail maintenance, telephone line maintenance, boundary-fence maintenance, sewer and toilet maintenance, and "wood-procurement." Road maintenance tasks included repair of slides and slumps in the soft sulphurous banks, caused by heavy snowfall and subsequent melt, resurfacing/oiling, and roadside clean up (including removal of debris from gutters and drainage ditches).²⁹⁶

Each camp assumed responsibility for maintenance and repair of a section of the Lassen Peak Highway. The Boundary Springs Camp (NP-1) maintained the roadway from the Northwest Entrance to Summit Lake while the Sulphur Works Camp (NP-2) maintained "their section" of road between Summit Lake and the Southwest Entrance. Work was completed in cooperation with the Bureau of Public Roads.

²⁹³ Arthur C. Ringland, "Conserving Human and Natural Resources," interview with Amelia R. Fry, Edith McZirrow, Fern, Ingersoll, and Thelma Dreis, Berkeley, California, 1970. Transcript on file at the Bancroft Library, University of California, Berkeley, p. 180.

²⁹⁴ Anonymous, "Public Works Projects Narrative Report," January 3, 1934. LAVO Collection, WACC, pp. 1-2. Funds for the Naturalist's residence arrived too late in the 1933 Season to initiate construction. The building was completed in October 1934.

²⁹⁵ E. F. Leavitt, Superintendent, to The Director, April 19, 1937, File 600, LAVO Collection, WACC.

²⁹⁶ Quarterly and Annual Narrative Reports, 1933-1936, LAVO Collection, WACC, passim.

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Civilian Conservation Corps Projects, 1933.

Project	Camp
Flattening and Rounding of slopes, adjacent to Lassen Peak Highway	Boundary Springs
Reconstruction of Manzanita Lake-Badger Flat Truck Trail	Boundary Springs
Reconstruction of Hat Creek-Badger Flat Truck Trail	Boundary Springs
Manzanita Lake footbridge construction, connecting parking area with housekeeping cabin group and public campground	Boundary Springs
Manzanita Lake underground utilities	Boundary Springs
Manzanita Lake comfort stations	Boundary Springs

Civilian Conservation Corps Projects, 1934.¹

Project Name	Camp
Warner Valley Ranger Station barn, garage, and pasture fence	Warner Valley Spike Camp
Warner Valley Campground	Warner Valley Spike Camp
Landscaping and Planting at Mineral Headquarters (stump removal and limited planting)	Sulphur Works
Sulphur Works Campground and Road	Sulphur Works
Manzanita Lake Campground	Boundary Springs
Manzanita Lake Lecture Circle and Fireplace	Boundary Springs
Reconstruction of Badger Flat-win Lakes Truck Trail (continuation of Hat Creek-Badger Flat Truck Trail)	Boundary Springs
Grassy Lake (Horseshoe Lake) Ranger Station	Horseshoe Lake Spike Camp
Butte Lake Campground	Butte Lake Spike Camp
Butte Lake Entrance Road Reconstruction	Butte Lake Spike Camp
1. Anonymous, "Southwest Camp NP-2, Quarterly Narrative Report June 9-30, 1934," Folder: Southwest Camp NP-2, Quarterly Narrative Report June 9-30, 1934, Box 4, Western Archeological and Conservation Center, Tucson, Arizona (WACC).	

Civilian Conservation Corps Projects, 1935.

Project Name	Camp
Conversion of park telephone lines from grounded-line park trunk line to a metallic circuit	Sulphur Works
Brokeoff Mountain Trail	Sulphur Works
Native-rock camp stoves at Sulphur Works Campground	Sulphur Works
Miscellaneous bulletin boards	Sulphur Works and Boundary Springs
Horseshoe Lake Corral/Pasture Fence	Horseshoe Lake Spike Camp
Lassen Peak Highway Realignment, Sulphur Works to Southwest Checking Station ¹	Boundary Springs
Bumpass Hell Trail (Reconstruction)	Boundary Springs
Stone portals, cattle guard, and drift fence at Northwest Entrance	Boundary Springs
Manzanita Lake Campground	Boundary Springs
Manzanita Lake Picnic Area	Boundary Springs

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Civilian Conservation Corps Projects, 1935.

Project Name	Camp
Reflection Lake Picnic Area	Boundary Springs
Manzanita Lake Campfire Circle Lecture Platform ²	Boundary Springs
Summit Lake Campground Loops (north and south), picnic area, and Ranger Station	Boundary Springs
Kings Creek Campground	Boundary Springs
Garage and Woodshed for Naturalist's Residence, Reflection Lake	Boundary Springs
Horse Trail, Warner Valley to Summit Lake	Warner Valley Spike Camp
Twin Lakes Fire Tool Cache	Twin Lakes Spike Camp
<p>1. In 1935, E.C.W. Landscape Architect Noble Hoggson wrote "Another project started by the B.P.R. in July was the realigning and removing of dangerous curves on that very dangerous section of the Loop Highway lying between the Sulphur Works and the Checking Station. . . . Points were blasted off and shoulders widened until now this section compares in appearance and safety with any other section of the Loop Highway." Hoggson, "Report to the Deputy Chief Architect through the Superintendent of Lassen Volcanic National Park," June – October 1935, File: Landscape Architects Reports 1935, Box 7, RG 79, NARA San Bruno.</p> <p>2. Constructed by "a small crew of picked men."</p>	

Civilian Conservation Corps Projects, 1936.

Project Name	Camp
Cattle Guard and Drift Fence at Southwest Entrance	Boundary Springs
Toilets, Horseshoe Lake and Juniper Lake	Boundary Springs
Water Control Structure, Horseshoe Lake	Boundary Springs

Mission 66

Update of the park's Master Plan coincided with the nationwide "Mission 66" program. Implemented in 1956 with completion scheduled for the 1966 50-year anniversary of the National Park Service, Mission 66 was necessitated, the Park Service argued, by "the growth of cities, the shorter work week, the advent of the family car, good roads across the country" and the ensuing wave of visitors to the ill-prepared parks.²⁹⁷ "An intensive study of the problems of protection, public use, interpretation, development, staffing, legislation, financing, and all other phases of park operation" was to be followed with a "comprehensive and integrated program of use and protection that will harmonize with the Service's obligations under the Act of 1916."²⁹⁸

However, the Service's obligations under the Act of 1916 had always inspired debate. The continued conflict between development of a pleasure ground and preservation of park resources – including the resources of wilderness and solitude – infused the Mission 66 era. Development advocates struggled to expand administrative and interpretive facilities, to improve recreation options, and to increase "bed counts" in order to provide for the 80,000,000 park visitors expected in 1966. Simultaneously, preservationists, both inside and outside of the federal bureaucracy, argued that the

²⁹⁷ The national park system, designed for 25 million visitors a year, would receive in excess of 80 million visitors a year by the mid-1960s. Between 1940 and 1954, visitation to Teton National Park, for example, was up 932 percent, to Olympia up 664 percent, and to Glacier up 264 percent. *Report of the Director, NPS, to SI, 1954*, reprint from the *Annual Report of the Secretary of the Interior*, Department of the Interior (Washington, D.C.: GPO), 1954, p. 334; "The U.S. is Outgrowing Its Parks," *U.S. News and World Report*, June 10, 1955, p. 79.

²⁹⁸ Lon Garrison, "Mission 66," *National Parks Magazine*, July-September, 1955, p. 107.

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national parks were becoming “resorts” cluttered with “contemporary” buildings of freak and austere design” when they were designed to be preserved as “wilderness.”²⁹⁹ A solution was seen in the development of “appropriate and harmonious” facilities outside park boundaries or at park entrances rather than in the scenic heartlands.

Of the 80,000,000 anticipated park visitors nationwide by 1966, 800,000 per year were expected to visit Lassen Volcanic National Park.³⁰⁰ These numbers reflected consistent increase and generated enormous stress on infrastructure constructed in the 1930s: 41,000 visitors toured the park in 1945. By 1955 those numbers had increased to 304,000 and California continued to grow in population and popularity. “All facilities are crowded,” the Lassen park naturalist wrote ca. 1955, “not only government but concession facilities also. . . . Such overcrowding means overuse.”³⁰¹ In a final Master Plan for Preservation and Use of Lassen Volcanic National Park, not approved by the director of the Western Regional Office until 1963, park personnel identified 19 priority action items critical to effective park management. As during the initial park planning process, these priority action items fell within three broad administrative categories: 1) research and interpretation; 2) natural-resource protection; and 3) infrastructure development consistent with the service’s mission to educate, entertain, and protect. Research and education needs included development of an adequate library and study collection and continued research on the flora, fauna, and history of the park (including prehistory and ethno-history).³⁰² Proposed new construction was limited to a new visitor center at Manzanita Lake (to replace the “ugly quasi-Spanish” Loomis Museum³⁰³); construction of information centers; improvement and/or expansion of camping facilities; expansion of the interpretive trail network.; and expansion of concession-operated accommodations at Drakesbad and Manzanita Lake and of administrative facilities at Mineral, Manzanita, and backcountry stations, as needed. Protection of natural resources was to be achieved through the continued acquisition of private inholdings; obliteration or removal of “remaining vestiges” of human habitation, except where those improvements conformed to the park’s management plan; restrictions of the size of the developed winter use area (ski area); and continued prohibition of motor boating on park waters.³⁰⁴

Modern Period

Dramatic changes in park infrastructure in the post-Mission 66 period include the 1985 removal of the Lassen ski area, in response to decreased profitability and increased awareness of environmental damage, and the 1973 closure of Manzanita Lodge.

In 1981, the Park Service approved expansion of the parking lot and construction of a 2,100' triple-chair lift, significantly expanding the area's capacity. Concurrently, it established that by 2001, when comparable facilities had been constructed on nearby Forest Service land, the ski area would be removed and the land returned to its natural condition. Much sooner than that, in 1985, the concessioner reported heavy competition from the newly opened Mount Shasta Resort, a decrease in skier numbers as drought hit northern California, and significant drops in profitability. The

²⁹⁹ Devereux Butcher, “Our National Parks In Jeopardy: Resorts or Wilderness?,” *Atlantic Monthly*, February, 1961, p. 45.

³⁰⁰ Richard G. Prasil and Raymond L. Nelson, Park Naturalists, “Master Plan for the Preservation and Use of Lassen Volcanic National Park,” Nov. 30, 1962, Vol. I, Chapter 1, p. 5. On file at National Park Service Denver Service Center Technical Information Center, Denver.

³⁰¹ Anonymous, “Mission 66 for Lassen Volcanic National Park,” n.d., p. 2. On file at National Park Service Denver Service Center Technical Information Center, Denver.

³⁰² In the 1952 Master Plan, park naturalist Paul E. Schulz reports planned construction of 14 new exhibits for display at the Loomis Museum: three related to park geology (the park’s traditional interpretive focus), four to “Indians” and seven “historical” displays. Paul E. Schulz, Park Naturalist, *Master Plan for Use and Development*, “Interpretation,” March, 1952, p. 21.

³⁰³ Paul E. Schulz, Park Naturalist, *Master Plan for Use and Development*, “Interpretation,” March, 1952, p. 14.

³⁰⁴ Daniel J. Tobin, Superintendent, *Master Plan for Use and Development*, “General Information,” February, 1952, passim.

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National Park Service, seeking to avoid environmental damage associated with resort operation, declined to seek an alternative concessioner and the lifts were removed.³⁰⁵ Remains are currently limited to the lodge, now serving as a visitor center and lunch counter.

In 1967, the USGS commissioned a study of the potential hazards of future eruptions and landslides within the park. Consulting geologists Dwight R. Crandell and Donald R. Mullineaux reported that while the risk of occurrence was slight, a rock avalanche could travel from Chaos Crags to the Loomis Museum in approximately ninety seconds. There would be no warning and all visitors at the Manzanita Lake complex, within the designated avalanche danger zone, would be at extreme risk of harm. Upon informal release of the advisory document, in 1973, Manzanita Lake concessioner U.S. Natural Services announced that their insurance had been canceled and asked that the NPS either waive the insurance requirement or indemnify the property. Able to do neither (or, many suggest, unwilling), the Park Service purchased the concessioner's possessory interest in the facilities and then closed the lodge, cabins, general store, gasoline station, gift shop, camper service, Loomis Museum, 273-site campground, picnic area, and employee housing. (The campground area located beyond the danger zone was reopened in 1976.) Despite establishment of temporary services in Manzanita Meadows to the west of Chaos Jumbles, the disruption to the park's master plan of operations was significant, with an overall drop in visitation and concentrated use at other park facilities.³⁰⁶

In 1987, after removal of the historic Manzanita Lodge and cabins, scientist Dean B. Eppler concluded that a rockfall originating at Chaos Crags would not reach Manzanita Lake. The Park Service responded by reoccupying those historic buildings still standing at the lake (the Naturalist's residence, Loomis Museum and residence; and Seismograph Station), and reopening the Reflection Lake picnic area and nature trails. In an effort to control visitor numbers, Manzanita Lake campground loops A and B were not reopened and the lodge and cabins were not rebuilt.³⁰⁷

Care and Protection of the Park

Fire Prevention and Control

Through the 1920s, the National Park Service left responsibility for locating, and controlling forest fires on park land to the United States Forest Service: "In the matter of fires there is no Park as far as the Forest Service is concerned," Chief Ranger Collins reported in 1925. "The Forest Service people maintain two lookout stations within the confines of the park [Prospect Peak and Brokeoff Mountain]. They also have [the park] divided into fireman's districts etc."

³⁰⁸ Additional components of this early fire prevention system included a series of truck trails developed by area settlers and recreationists in the late nineteenth century: the Old Emigrant Trail/Badger Truck Trail, and roads to Twin and Butte lakes (see administrative resources, above.)³⁰⁹ By the late 1920s, the Park Service had begun to take responsibility for fire prevention and control within park lands, constructing a telephone line between the new Warner Valley Ranger Station

³⁰⁵ John Koeberer, interviewed by Ann Emmons, Historical Research Associates, Inc. February 2002. Transcript on file with the National Park Service, LAVO.

³⁰⁶ John Koeberer, February 2002; Strong, *Footprints in Time*, pp. 97-100; see also "Manzanita Lake," Unaccessioned Historic Material, LAVO, for geological reports and internal NPS correspondence.

³⁰⁷ Strong, *Footprints in Time*, pp. 97-100. John Koeberer of the California Parks Company, current Lassen concessioner, reports that the absence of accommodations at Manzanita Lake significantly affects park visitation. Those unwilling to camp are largely compelled to stay in the border communities of Susanville, Reading, and Red Bluff (where summer temperatures often reaches 100 degrees) and all an hour's drive to the park. Accommodations in Chester and Mineral, although closer to the park, are limited and rudimentary and are not adequate for organized tour groups. John Koeberer, February 2002.

³⁰⁸ L.W. Collins, Chief Ranger, "Annual Report 1925, p. 2.

³⁰⁹ F.A. Silcox, "How the Fires were Fought," *American Forestry: The Magazine of the American Forestry Association* 16 (November 1910), p. 638.

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and Summit Lake, repairing the "old Forest Service lines" between Badger Flat and Butte Lake and between Summit Lake and the Prospect Peak Lookout. Of most note, in 1930, the NPS announced completion of the Mount Harkness fire lookout in the southeast extreme of the park adjacent to timber and ranching land where the risk of man-made fire starts was considered high. Completion, Superintendent Collins reported in a September 1930 press release, "marked an important milestone in the protection plans for the park."³¹⁰ Concurrently, the NPS constructed a telephone line connecting Mt. Harkness with the Warner Valley Ranger Station. Depression-era funding allowed construction of tool caches at Twin Lakes; fire-risk reduction, including road-side burning and slash reduction; and expansion of the road and trail system, a system of benefit to both tourists and also those on fire patrol.

Stock Trespass

At the time of park designation, the United States Forest Service reported 12 users of range located partially or wholly within the boundaries of the park – at Juniper/Twin Lakes; Sulphur Springs, and along King's Creek. In 1943, NPS Regional Director O. A. Tomlinson described the historic and ongoing problem to the NPS Director: "it should be explained that Lassen Volcanic National Park is completely surrounded by the Lassen National Forest and the park boundary is almost entirely unfenced so that the cattle of permittees on Forest land can readily drift into the park at many points unless the cattlemen ride herd or unless rangers are assigned to keep them out."³¹¹ Areas of primary concern included the Warner Valley and King's Creek Meadows/Twin Meadows/Crumbaugh Lake region, both of which bordered inadequately fenced privately owned or USFS leased grazing lands.³¹²

Stock trespass was exacerbated by limits to graze in the surrounding valleys. Drought, for example, hit the region in 1918 and lingered through the 1930s. During the driest year, 1924, "hardly any hay was stacked throughout the county, meaning no winter feed."³¹³ During these years National Park Service rangers reported increased stock trespass, particularly in the Warner Valley and Hat Creek regions. Trespass also increased during WWII, when limited park staff made patrolling the park especially difficult and when area cattlemen agitated for special-use permits, identifying beef production as central to the war effort and branding the Park Service "unpatriotic" for its strict adherence to grazing restrictions.³¹⁴

In 1936, the National Park Service and the United States Forest Service initiated a cooperative venture for construction of a cattle guard and drift fence near the Southwest Entrance, to restrict the passage of stock from Forest Service to national park land. Delayed by adverse weather in the fall of 1936, the project was completed in 1937 by members of the Boundary Springs CCC camp. Additional protection of park grass and riparian zones was secured through construction of drift fences – including those between Twin Meadows and Crumbaugh Lake, along the park boundary at Twin Meadows, at Manzanita Lake – and boundary fences, including fence securing private land at Badger Meadows.³¹⁵ The chief means of prevention, however, was consistently defined as "intensive patrol and warning to the permittees." "Drove down to Lees [today]," the Warner Valley ranger wrote on October 19, 1936, "to notify Orford to get

³¹⁰ Quoted in Chappell, "Mount Harkness Lookout National Register Nomination (draft)," ca. 1975, p. 2.

³¹¹ O. A. Tomlinson, Regional Director, to the Director, April 28, 1943, File 900.01, Box 73, LAVO Collection, WACC.

³¹² Nelson Murdock, Acting Superintendent, *Master Plan for Development and Use*, "Forestry," February 1952, p. 8; James V. Lloyd, Superintendent, to the Regional Director, October 7, 1943, File trespass, Box 47, LAVO Collection, WACC.

³¹³ Lyn Allen, *Lassen County: Cow Country* (Susanville: Lassen County Cattlemen's Association and Lassen County Cowbelles, 1966), p. 12.

³¹⁴ See File 900.01 [1944], Box 73, LAVO Collection, WACC.

³¹⁵ See, for example, James V. Lloyd, Superintendent, to the Regional Director, July 31, 1944, File 900.01, Box 73, LAVO Collection, WACC.

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[his] cattle out of the park." Previous days had been spent on "mounted patrol" to Kelly's, to Terminal Geyser, to Drakes Lake, to Rice Creek and back via Twin and King's Creek Meadows.³¹⁶

Privately Owned Lands

Since park designation, private ownership of lands located within the boundaries of the park has constituted "one of the major administrative problems," compromising park administrators' ability to develop "well-rounded plans" for the park and to control park development in a manner consistent with the mandate to preserve and protect.³¹⁷ In 1932, the park contained 18 privately owned tracts of land (or "inholdings"), comprising 2686.40 acres of land that had left the public domain prior to designation of the park. By 1949, the number of tracts had been reduced only slightly, to 16 holdings containing 2,622.27 acres.³¹⁸ Reflecting their historic status as agricultural sites, these tracts were concentrated in open low-elevation meadows (as at Badger Flats, where cattleman Hugh Addington ranched Horace Herbert's historic 160-acre homestead, at Drakesbad Guest Ranch where the Siffords owned Edward Drake's 1885 homestead, at the Devastated Area where J.E. Stewart owned 80 acres, and at Hot Springs Valley where the Supan family owned 160 acres); and along water bodies, particularly scenic and accessible Hat Creek, where Long, Wilson, and Janek had homesteaded at the turn of the century, and at Juniper Lake where the Snell family had purchased state land prior to park designation.

Since 1916, acquisition of these inholdings had been an administrative priority, though willing sellers and available funds rarely coalesced and though determination of fair market often proved elusive. The appraisal effort, the Park Service acknowledged, was complicated by the difficulty of assigning a monetary value to the sentimental worth inherent in property homesteaded and developed by one family and by the difficulty of judging the value inherent in leisure, recreation, and scenic beauty. Moreover, during the Great Depression of the 1930s, when land owners – Stewart, Herbert, Long, and others – proved willing to sell the Park Service found itself perennially short of funds authorized for land purchase. In 1932, Associate NPS Director Arno B. Cammerer regretted to inform inholders that "because of the present economic condition of the country and the deficit that exists in the Federal Treasury, Congress did not make a general appropriation for the 1933 fiscal year for the purchase of privately owned lands within the national parks."³¹⁹ At Lassen Volcanic National Park, this deficit matched that of the 1910s and 1920s, when the nascent park's budget was limited, and that of the 1940s, when wartime emergency measures restricted non-essential federal purchases. Not until the 1950s would park officials report significant success in the purchase program.³²⁰

Throughout the historic period, purchase efforts were concentrated on those lands at Juniper Lake, representing 1,534 lots developed by C. P. Snell and zoned for or developed as recreational properties,³²¹ at Supan Hot Springs, and at Drakesbad. All three inholdings contained "resort development of some type" and were located in "important public use areas," with the potential for extensive visitation and full-integration in the park's management plan. While the Siffords generally managed their Drakesbad holdings in a manner consistent with Park Service policy, the Juniper Lake Resort and Supan Hot Springs proved of more-significant concern and were considered "the most important for early

³¹⁶ Monthly Reports, October 1936, LAVO Collection, WACC.

³¹⁷ James V. Lloyd, Superintendent, to the Regional Director, November 7, 1941, File 610, Part I, Box 57, RG 79, NARA San Bruno.

³¹⁸ The Park Service classified the small Juniper Lake subdivision lots (as many of 200 of which were sold) as one inholding.

³¹⁹ Arno B. Cammerer to Ervie A. Ferris, November 21, 1932, file: L (Inholdings), LAVO Central Files, Mineral, California.

³²⁰ See "Land" file, Unaccessioned Historic Material, LAVO.

³²¹ As of 1938, 200 of these lots had been purchased, complicating purchase efforts. The Snell Family held 480 acres, including the site of the Juniper Lake Resort, containing a lodge, multiple guest cabins, and a general store. F. A. Kittredge, Regional Director, to the Director, October 20, 1938, File 610, Part I, Box 57, LAVO, RG 79, NARA, San Bruno.

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acquisition.”³²² Park files are filled, for example, with reports of destructive Christmas-tree harvest at Juniper Lake (the method used in 1941, Superintendent Lloyd reported, “was the most destructive yet seen. It consisted of knocking down silver fir trees thirty or forty feet in height with a heavy tractor so that their symmetrical tops could be reached from the ground and cut off), excessive liquor sales, hunter trespass on adjacent park lands, and visitor complaints over Snell’s imposition of a toll to pass over the Juniper Lake Road.³²³

Completion of comprehensive master plans for development of the popular Juniper Lake region or for completion of a through road connecting the southeast corner of the park with the Lassen Park Highway were consistently delayed pending acquisition of these private holdings. “The Service doubtless would never build a road into this area while in the hands of private owners. I would much rather see the Juniper Lake area left in its present status until such time as the Service can purchase the property and undertake the development on an independent basis,” Regional Director F. A. Kittredge wrote in 1933. Despite the purchase in 1956 of Cora Snell’s holdings, a portion of the Juniper Lake lakeshore remains in private hands and the lakeshore is dotted with privately owned cabins. NPS sanctioned or constructed improvements at the lake are limited to a modern campground, a modern ranger station, and a modestly developed beachfront/parking lot at the north end of the lake. Road access remains slow and jolting, over a long low-standard gravel road cut for most of its length through USFS and timber-company land.³²⁴

The Supan family threatened throughout the 1920s and 1930s to construct a major tourist development on their property, first raising the specter of a high board fence around their property, an admission fee to the Sulphur Works, a hotel, and a gas station and, by the 1940s, confirming the Park Service’s fears. Given the location immediately adjacent to the Lassen Park Highway and proximate to a major park entrance, NPS acquisition of the land was deemed an administrative priority. Both expansion and purchase proved slow but inexorable.³²⁵ In 1951, after 30 years of conflict and negotiation, the Park Service purchased the Supan property and operated the gasoline station, lunch counter, curio shop, and four overnight cabins under authority of a short-term concession contract.³²⁶ In 1956, the NPS declined to renew this contract and all site improvements were removed.

Historically additional areas of concern were defined as the Hat Creek region where J. W. Long had subdivided 150 acres of his 1892 homestead. In 1937, Mr. K.W. Mauzey of Roscoe California began to clear trees from a lot purchased from Mr. Long and announced his intention to build a summer home. The Dubrowsky family of Redding, which “loudly, bluntly, and boisterously” contested the Park Service’s right to control their passage through the Northwest checking station and along the Hat Creek truck trail, also intended to build on their Hat Creek lot. “As soon as [one] summer home goes up in this area,” park Superintendent E.P. Leavitt warned, “others are almost certain to be built. Visitors to the park are attracted by new buildings.”³²⁷ By 1966, the 7-acre Dubrowsky holding had been subdivided into 11 small lots, with

³²² Daniel J. Tobin, Superintendent, to Associate Director Demaray, September 15, 1947, File 600 Part VII, Box 55, RG 79, NARA San Bruno, n.p.

³²³ File: Inholdings, Juniper Lake, LAVO Collection, WAAC, passim.

³²⁴ F. A. Kittredge, Regional Director, to the Director, October 20, 1938, File 610, Part I, Box 57, LAVO, RG 79, NARA, San Bruno.

³²⁵ F. A. Kittredge, Regional Director, to the Director, October 20, 1938, File 610, Part I, Box 57, LAVO, RG 79, NARA, San Bruno. The National Park Service contested Supan ownership of the land, arguing that the mining claim was invalid. The Supans received title to the claim in 1934.

³²⁶ *Master Plan for Development and Use*, “Concessions,” November 1952, p. 3; James V. Lloyd, Superintendent, to the Regional Director, October 7, 1943, File trespass, Box 47, LAVO Collection, WACC.

³²⁷ E. P. Leavitt to Frank A. Kittredge, Chief Branch of Engineering, July 15, 1937, File 610, Part I, Box 57, LAVO, RG 79, NARA, San Bruno

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chain of ownership largely defined by “a thread of family relationships or friends of the family.” Few of the lots were ever offered on the open market, making valuation difficult and precluding Park Service right of first refusal.³²⁸

Though power and gas are not available to the Hat Creek sites, water is plentiful and the sites are, in the words of a real estate appraiser, “extremely beautiful and well suited to someone desiring an unspoiled, primitive, homesite in a setting of unexcelled beauty and tranquility.”³²⁹ Those seeking such attributes have not diminished in number and in 1995, five of the twelve private inholdings within the park were located along Hat Creek, with opportunity for Park Service acquisition considered slight.³³⁰

Other inholdings were used primarily as grazing lands (the Hust; Hanna; and Childs claims, for example) and though these undeveloped and inaccessible lands were of less risk of commercial development, such agricultural use was considered an adverse use with a damaging effect upon the park areas. While purchase was not deemed as essential as for those tracts with commercial potential the Park Service sought their acquisition “simply to have the private holding extinguished.”³³¹ Inaccessible lands held by timber companies provided the opportunity for “in-lieu” land exchanges (generally in cooperation with the Forest Service) and – because of their inaccessibility – were at little risk of development. This purchase effort was also assigned lower-priority status.³³²

By 1997, the Park Service had purchased or traded for all private holdings save 12: five at Hat Creek and seven at Juniper Lake. Here, owners refuse, as their parents and grandparents refused before them, to place a price on the value of the holdings.³³³

Completion of comprehensive master plans for development of the popular Juniper Lake region or for completion of a through road connecting the southeast corner of the park with the Lassen Peak Highway were consistently delayed pending acquisition of these private holdings. “The Service doubtless would never build a road into this area while in the hands of private owners. I would much rather see the Juniper Lake area left in its present status until such time as the Service can purchase the property and undertake the development on an independent basis,” Regional Director F. A. Kittredge wrote in 1933. Despite the purchase in 1956 of Cora Snell's holdings, a portion of the Juniper Lake lakeshore remains in private hands and the lakeshore is dotted with privately owned cabins. NPS sanctioned or constructed improvements at the lake are limited to a modern campground, a modern ranger station, and a modestly developed

³²⁸ R. Dean Stahr, MAI, Real Estate Appraisal Tract 01-151 (Kitchell), November 1966, File L1425 “Kitchell Hat Creek,” Central Files, LAVO, no page.

³²⁹ R. Dean Stahr, MAI, Real Estate Appraisal Tract 01-151 (Kitchell), November 1966, File L1425 “Kitchell/Hat Creek,” Central Files, LAVO, no page.

³³⁰ Gilbert. Blinn to Sondra Humphries, Bryan Swift, Elizabeth A. LaLone, February 7, 1997 (electronic mail), file: L (inholdings), Central Files, LAVO.

³³¹ Superintendent, Lassen Volcanic National Park, to the Regional Director, October 20, 1949. File: L (lands), Central Files, LAVO.

³³² In a standard land exchange, a lumber company would release timbered acreage within the national park in exchange for land of similar value on a national forest. More-complex transactions involved a third party. In 1951, for example, the Park Service contemplated a three-party exchange for private lands within Lassen Volcanic National Park held by the Diamond Match Company and Red River Lumber Company. The park hoped to induce an unnamed “interested Lumber Company” to purchase the inholdings and then submit this land to the Park Service in exchange for timbered public land elsewhere (in this instance Bureau of Land Management Land near the park) as allowed under the provisions of the Taylor Grazing Act. B. F. Manbey, Acting Assistant Regional Director, to Superintendent Lassen Volcanic National Park, December 20, 1951, File 605-01, Box 56, LAVO, RG 79, NARA San Bruno.

³³³ Gilbert Blinn to Sondra Humphries, Bryan Swift, Elizabeth A. LaLone, February 7, 1997 (electronic mail), file: L (inholdings), Central Files, LAVO.

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beachfront/parking lot at the north end of the lake. Road access remains slow and jolting, over a long low-standard gravel road cut for most of its length through USFS and timber-company land.³³⁴

Maintenance

Maintenance tasks occupied a less prominent place in formal park management plans yet comprised the day to day and seasonal rhythms for park staff. Ranger diaries are illustrative. As WWII waxed, in September of 1942, the Butte Lake ranger noted a "marked decrease in traffic," and described days spent in simple chores: "a new hitching post was erected near the barn," for example, "and stepping stones were laid outside the back door of the station." Corrals and fences were repaired, stumps pulled, garbage burned, ditches and road culverts cleaned. In September 1947 the Butte Lake ranger noted with satisfaction that "improvement in the amount of cattle trespass is noticeable. Four head have come in to the south end of Butte Lake intermittently, but have actually been driven out by their owners on occasion. The usual trespass at Snag Lake has not materialized." With distinctly less satisfaction, the ranger noted also "the presence of chum in Emerald Lake undoubtedly the result of a planting in the early days of the park by Dick Book, temporary ranger, to provide food for the trout." (By the 1940s Lassen lakes and streams were no longer planted.)

In 1937, as in 1947, as today, road and building maintenance formed a continual circle, from the first rush of snow clearing, painting, and clean-up, to the October tasks of preparing the park for the heavy snows typical of the region. For example, John Janc, who recently retired after 32 years on the park road crew, remembers that snow clearing began on or about the first of April continuing at a rate of 100 to 800 yards a day, until the "grand opening." With the road open ("local businesses would complain" if the road wasn't open by Memorial Day), crews would blade the secondary park roads while they waited for the snow banks to melt on the Lassen Park Highway, generally by July. Snow melted, crews turned to the task of cleaning ditches, "pulling" shoulders, patching holes – all the while dodging heavy tourist traffic and watching over their shoulders for the first heavy snows of fall: "a lot of years you'd just be finishing and then you'd have to prepare for winter," pulling road signs and planting snow poles.³³⁵ Building maintenance workers described a similar cycle. These patterns continue today.

³³⁴ F. A. Kittredge, Regional Director, to the Director, October 20, 1938, File 610, Part I, Box 57, LAVO, RG 79, NARA, San Bruno.

³³⁵ John Janc, interviewed by Ann Emmons, Red Bluff, California, February 2002. Transcript on file with the National Park Service, LAVO.

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Section F: Associated Property Types and Registration Requirements

The following property types group like-resources associated with the previously identified historic contexts and identify character-defining features. These characteristics in turn determine National Register registration requirements, or standards by which the physical and associative integrity of Lassen Volcanic National Park resources can be measured. The registration requirements are predicated on the conclusion that overland migration; Euroamerican settlement; geological studies; growth of the tourism industry; and NPS development are significant themes in local, regional, or national history. Please note that, as stipulated by the National Register, registration requirements are not designed to supplant or to be more restrictive than integrity guidelines and criteria considerations presented by the National Park Service in National Register *Bulletins 15* or *30*. Rather, they are intended to define those aspects of integrity that relate most directly to a resource's significance within a local context. Property types are not identified for those themes where resources are not known to remain extant or those resources found so infrequently that comparative analysis of shared characteristics and integrity is not possible (for example, resources associated with the fur trade).

National Register criterion B is not addressed below, not because none of the park resources is potentially eligible for listing under criterion B but rather because the criterion does not lend itself to generalization based upon shared characteristics. The evaluation of a resource's significance and eligibility under criterion B is based solely on the *unique* characteristics of each site, not on general patterns of local and regional history. Lassen Volcanic National Park cultural resources may be significant under criterion B if the person associated with the property is individually significant within a historic context; if the property dates to and is directly associated with the person's significant accomplishments; and if the property best represents the person's productive life. Properties associated with an individual's formative or later years may also be significant if it can be demonstrated that the person's activities during this period were historically significant or if no properties from the person's productive years survive. Eligibility under criterion B (as distinct from significance under criterion B) is dependent upon the retention of those physical characteristics most directly related to the significant individual's contribution to local, state, or national history or upon those physical characteristics that most obviously defined the character of the individual's experience at the site. Each site, therefore, must be evaluated for eligibility and significance within the context of the associated individual's productive life or formative years, not within the context of a specific theme or physical and associative characteristics shared by multiple sites.

Context: Overland Emigration

Summary: Beginning in the early 1840s, hundreds of Americans joined an overland migration to California. These travelers had to overcome the vicissitudes of great distance, deserts, and finally the formidable barrier of the Sierra Nevada. The California Trail included numerous alternate routes or "cut-offs," some prudent and others disastrous. In the middle of this great migration of farmers, gold was discovered in California and the movement of people swelled to thousands. The migration of the 1840s and 1850s left few visible traces in the vicinity of Lassen Volcanic National Park, but it produced dramatic changes in the larger cultural and political landscape of northern California. These developments in turn created the context for mining, lumbering, and other industries that would affect the area around Lassen Peak in the latter part of the nineteenth century.

Known cultural resources associated with Overland Emigration are limited to the remains of Nobles Emigrant Trail. Additional resources associated with this theme include Lassen Peak as seen from the trail corridor - a natural feature ascribed cultural value by those emigrants who used the peak as a landmark and place marker - and also the meadows at Badger's Flat, where emigrants found abundant grass and water for their livestock. Camp sites also remain along the corridor, at those locations offering water and sufficient grass for livestock. These natural features, vistas, and camp sites, as identified through emigrant diaries or field survey, should be added to the current Nobles Emigrant Trail National Register nomination as contributing components of the larger trail landscape.

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Property Types:

- **Trail Corridors and associated camp sites and views and vistas.**

Significance: Known park resources associated with Overland Emigration are limited to the remains of Nobles Emigrant Trail, used most intensively between 1851 and the completion of the transcontinental railroad to Sacramento, in 1869. The trail corridor, as found within the boundaries of the park, is listed in the National Register of Historic Places under criterion A for its significant association with American settlement.

Registration Requirements: The presence or integrity of archaeological remains at camp sites should not be considered a standard for listing; water and grass and topography sufficiently level for camping are character-defining features, as is retention of views approximating those described by emigrants.

Context: Extractive Industry and Permanent Settlement in the Lassen Region

Summary: Extractive industry and permanent settlement in the Lassen region represented a brief if intense period of land use, ultimately curtailed by limits to the growing season, to marketable minerals, and to access. By these limits, however, and the lack of subsequent modern development, vestiges of settlement and extractive industry stand as a snapshot of the 19th- and 20th-century West and contribute to our understanding of the advancement of Euroamerican interests, the resultant impact on native culture, and the history of resource extraction and conservation. Known park resources associated with this context are limited to the Sunflower Flume and Canal, the Rice Creek Ditch, and the archaeological remains of sulphur mining at Supan's Sulphur Works.

Property Types:

- Resources associated with the Timber Industry
- Resources associated with Mining/Hydroelectric Energy
- Resources associated with Ranching

Note that by virtue of the paucity of extant resources associated with this context, property types have been defined on the basis of their shared association with a natural resource (e.g. all timber resources) rather than the basis of shared physical characteristics (harvest-related facilities and milling facilities). Delineation on the basis of physical characteristics requires a resource sample broad enough to allow a comparative analysis.

Without exception, the property types detailed below represent components of industrial processes, wholly dependent upon the presence of raw materials (grass and water, for example), where the built environment is understood only in relationship to the exploited raw material and where individual resources, despite their physical isolation, generally serve as links in a larger production system.

Resources Associated with the Timber Industry - Significance: In a 1912 report submitted to Congress, the Lassen Peak Forest Reserve district ranger assured Congress, the United States Forest Service, and lumbering interests that lands within the proposed "Peter Lassen National Park" had "never been logged" and were both too isolated from established communities and transportation networks and too void of marketable timber to ever be profitably logged. Subsequent (1930; 1939) proposals to add timber stands north of the park were rejected as "too costly," both in terms of the cost of land purchase/land trade and the larger economic impact to the timber industry.³³⁶ Commercially logged areas within the

³³⁶ Within the boundaries of the proposed park, the district ranger reported that the most marketable timber was located in the Prospect Peak vicinity, with additional concentrations near Manzanita Lake and the West Fork of Hat Creek. These lands, however, were described as too removed from the regional transportation network and milling sites to be profitably harvested. The remaining
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park, containing cultural resources associated with the industrial phase of this regionally significant industry, are therefore believed to be limited to the Manzanita and Reflection lakes vicinity, proximate to Shingletown-area mills and added to the park by boundary adjustment in 1929. Evidence of small-scale mid-century "gippo" logging and shake harvest may be found throughout the forested regions of the park. It is anticipated that remains of human and animal shelter constructed in association with these winter camps will display poor craftsmanship, appropriate to resources inhabited only temporarily. Timber-related resources may date from ca. 1850 to 1916 and may be eligible for listing in the National Register of Historic Places under criteria A and/or D.

Resources Associated with the Timber Industry - Registration Requirements: There are no documented extant resources within the boundaries of the park associated with the timber industry. Resources will be archaeological in nature (the archaeological remains, for example, of a shingle camp) or will consist of isolated structures and sites associated with harvest (remains of a road or stumpage). Given this paucity, integrity of material, design, and workmanship should not be a requirement for listing and resources will not be eligible for listing under criterion C.

The few and unique remains will simply by their placement contribute to our understanding of the geographic range and nature of pre-1916 harvest techniques, and the socio-economic status of those engaged in harvest; location and setting are therefore character-defining features. Important research questions (re: criteria A and D) will relate most meaningfully to these themes. These questions include (but are not limited to) the following:

- Was the land ever owned in fee simple or does the harvest represent illegal harvest on public lands?
- If the land was patented under federal land laws, is the harvest commercial in scale (suggesting a speculative claim) or does it relate to subsistence use (associated with the ranching property type)?
- Do domestic and logging-related artifacts suggest small-scale gippo logging or industrial logging under the auspices of one of northern California's timber conglomerates?
- How does the site relate to other transportation and/or milling sites on lands located outside of the park boundaries, i.e. is the site part of a larger system that crosses current geo-political boundaries?

Research domains will likely vary from site to site, depending upon the information potential inherent within the archaeological assemblage. (Please note that archaeological resources may also be eligible to the National Register under criterion A.)

Resources Associated with Mining - Significance: Mining resources, regardless of locality, can be broken into four broad resource categories: prospecting (the search for minerals); production (mineral extraction); processing (conversion to a marketable or transportable commodity; includes smelting and milling sites); and support services (circulation systems; housing, etc.) By the nature of the mining process, resources associated with these categories may be located large distances apart and National Register-eligible sites or districts may contain elements of only one resource type.

Although located at the center of overland emigration associated with the California Gold Rush, the Lassen region proved void of profitable placer and hard rock gold, silver, and copper deposits. Sulphur mining proved only modestly profitable and production sites were small in scale. The Lassen region's greatest mining-related wealth proved to be water, developed in association with off-site production and processing facilities. Known mining-related resources are limited to the archaeological remains of sulphur mining at Supan's Sulphur Works (production and support facilities) and to hydroelectric development at Rice Creek (production) and at Manzanita Lake (processing). Additional undocumented resources are most likely to relate to short-term prospecting or short-term production (e.g. the 20' deep mining shaft noted at Bumpass Hell in the 1880s). Mining-related resources may date from ca. 1850 to park creation in 1916 (or the date at

park lands were described as high elevation, largely inaccessible, with scattered alpine and subalpine trees of small size. U.S. Congress, House, *Lassen Volcanic National Park*, 63rd Cong., 2d sess., Report 1021, 1914, pp. 8-9.

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which inholdings returned to public ownership) and may be eligible for listing in the National Register of Historic Places under criteria A, C, and/or D.

Resources Associated with Mining - Registration Requirements: Mining is an industrial process, where the built environment is understood only in relationship to the exploited raw material and where individual resources, despite their physical isolation, generally serve as links in a larger production system. Each resource therefore derives its greatest historic significance through that linkage: the historical use and importance of a water-conveyance system, for example, is best understood in juxtaposition with the associated hydraulic mining or milling site. However, given the distance between production and processing sites in the Lassen Region, and given geo-political boundaries that have affected the degree to which mining-related resources have been protected, it is unlikely resources within the park will retain this linkage. Moreover, by virtue of their age (pre-1916) and limited use, mining-related resources within the boundaries of Lassen Volcanic National Park are primarily archaeological in nature; integrity of materials, design, and workmanship will most often not be a requirement for listing and resources will not be eligible for listing under criterion C. These resources will simply by their placement contribute to our understanding of the geographic range and nature of mining in the park; location and setting are therefore character-defining features. Those sites that are not archaeological in nature (the Rice Creek/Dutch Hill Mine ditch, for example), may be eligible for listing in the National Register of Historic Places under criterion C for their engineering significance IF sufficient components of the larger technological system remain to demonstrate the system's construction and function during the period of significant use. In this instance, integrity of design, workmanship, and materials would be measured for the system as a whole (as it extends beyond park boundaries) not for the individual contributing components (which may retain poor integrity).

Important research questions (re: criteria A and D) will relate most meaningfully to the unique characteristics of mining in the Lassen region and will address those questions for which written documentation provides few answers. These questions include the following:

- How extensive and wide-ranged were prospect efforts?
- On land claimed under assorted federal mining laws, is there evidence that development/production was prosecuted over a sustained period of time (as required by law), or was small-scale mineral development a subterfuge for other land use (recreation/shelter)?
- How does the site relate to other mining-related sites on lands located outside of the park boundaries, i.e. is the site part of a larger system of production/processing that crosses current geo-political boundaries?

Research domains will likely vary from site to site, depending upon the information potential inherent within the archaeological assemblage. (Please note that archaeological resources may also be eligible to the National Register under criterion A.)

Resources Associated with Ranching – Significance: Ranching, as practiced within what is now Lassen Volcanic National Park, was seasonal. The park area represented the high-elevation extreme of a larger system of land use that includes low-elevation winter pasture and home-ranch facilities and the continuation/terminus of transportation corridors to regional and national markets. Improvements associated with Lassen land claims reflect this seasonal use and also the primitive transportation network: homes were small, simple, largely constructed of easily accessible native materials, and were not constructed for year-round habitation. Irrigation improvements were rarely constructed, and harvest was generally limited to the cutting of timothy and native hay and harvest of small kitchen gardens containing "the hardier root vegetables." Animal facilities were most often associated with constraint or minimal shelter (corrals, simple barns, and fences) rather than winter shelter or winter-feed storage (substantial barns and hay sheds). Fencing styles reflected the ready availability of timber. On Rawson and Grayson's land at Battle Creek Meadows, for example, fencing consisted of "a line of large fir trees fallen along to make base for log fence," with small logs and brush piled atop the larger base.

Ranching-related resources may be eligible for listing in the National Register of Historic Places under criteria A, C, and/or D. Known or documented ranching-related resources in Lassen Volcanic National Park are limited to cultural

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landscape elements, road and trail corridors, and archaeological sites. These resources may be eligible to the National Register of Historic Places under criteria A, C, or D, for their representation of significant regional historic themes and for their ability to yield important information related to the area's ranching history.

Roads and trails built in support of area agriculture, or appropriated by ranchers and herders, include the "Emigrant Road to Susanville" along the course of Nobles Emigrant Trail (the primary cattle and sheep trail to Susanville and points east); the Lockhart Wagon Road branching from the Emigrant Road near Manzanita Lake and continuing north toward Old Station; wagon roads extending south from Nobles Trail along Hat Creek (also known by herders as "The Hat Creek Route") and extending north from the emigrant trail toward Lost Camp in the Lost Creek drainage, and local access roads to private claims. These resources may be eligible for listing in the National Register as individual structures or as components of a larger cultural landscape.

Native materials – pine, fir, and stone – and relative isolation dictated construction style, with the quantity of imported materials inversely proportionate to distance from supply centers and ease of access. Milled-lumber appears to have been readily available, from local mills and as salvage from lumber flumes. Homes and animal shelters were constructed only for summer use; archaeological remains are therefore expected to display poorly insulated buildings. It is also expected that, in contrast to shelter associated with shingle manufacture and winter logging, these shelters would have been built to withstand the heavy snows typical of Lassen winters, with substantial foundations/sill logs, deep eaves, and steep roof lines. More shoddily built buildings may be associated with speculative claims where the claimant did not anticipate multiple seasons of use.

Cultural landscape elements (in addition to circulation systems and buildings/structures defined above) include cultivated land, pasture, or native-hay fields. It is likely that fields planted to grazing crops (most commonly timothy) will remain distinguishable from non-agricultural land forms and vegetation only at those agricultural sites that remain in private ownership. Natural resources adapted to cultural use, such as, for examples, Badger or Crumbaugh Meadows, may also be eligible for listing in the National Register of Historic Places as components of a larger cultural landscape.

Resources Associated with Ranching - Registration Requirements: The reality of resource distribution in the Lassen region, where historically associated resources are spread across large areas of federal and private land, precludes identification of continued linkage to other industrial/agricultural sites (e.g. home ranch facilities; markets) as an absolute standard of integrity. Extant landscape elements within the boundaries of Lassen Volcanic National Park - corrals, fences, roads and trails, pasture - are therefore eligible to the National Register of Historic Places under criterion A even if associated resources that in sum defined a cohesive system of land use are no longer extant or are located beyond the boundaries of federal ownership.

Similarly, standards of physical integrity (re criterion A) for individual resources must also be relaxed. Use of the Lassen region as summer range is well documented as the most longstanding significant land use of the historic period, prior to designation of the National Park. The ranching industry provided the most vociferous protest to park designation and substantially affected decisions regarding park boundaries. Exclusion of trespassing stock from park boundaries remains a significant and time-consuming management issue. The story of historic land use within the park is best told through the few remaining vestiges of this significant theme. Location and setting – the resources' ability to serve as a place marker and indicator of historic use – are character-defining features.

Known standing structures associated with the ranching industry are currently limited to roads and trails. To be determined significant for engineering or design (criterion C), resource design should be largely unaltered since the *end* of the period of significance and new materials (bridges; culverts; water bars; retaining walls) should be consistent with those used during the historic period and alignment should be largely unaltered.

As with timber and mining related resources, ranching resources will be eligible for listing under criterion D only if archaeological investigation is likely to reveal significant information not available (and collaborated) in the written or oral record. Within the context of northern-California settlement, significant research questions include but are not limited to:

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- On land claimed under assorted federal homestead laws, is there evidence that development/production was prosecuted over a sustained period of time (as required by law), or was agricultural development a subterfuge for other land use (timber harvest/speculative sale)?
- How does the site relate to other ranching-related sites on lands located outside of the park boundaries, i.e. is the site part of a larger system of production/processing that crosses current geo-political boundaries?

Context: Geological Studies

Summary: Geologic studies of the Lassen Peak region began in the 1860s and have continued through the modern period. Congress recognized the Lassen Peak region's outstanding array of volcanic landforms when it created Lassen Volcanic National Park in 1916, and scientists remained interested in Lassen Peak as one of only two eruptive volcanos in the contiguous United States until Mount St. Helens' eruption in 1980.³³⁷ Although Lassen Peak's main significance to volcanology was its period of eruption in 1914-15, it is also recognized as perhaps the world's largest plug dome volcano, a simpler landform than the composite-type volcanoes of the Cascades such as Mount Rainier and Mount Hood. Lassen Peak and the surrounding cones and buttes are also of interest to science as remnants of a much larger volcano (Mount Tehama). Cultural resources associated with the use of Lassen Peak for the advancement of our understanding of geological processes include seismographic stations at Manzanita Lake and at Mineral Headquarters as well as the Loomis studio and residence where the most famous of the Lassen eruption images were sold and where geologists congregated. Additional isolated resources may include evidence of core drillings.

Property Type:

- Resources Associated with Volcanology

Significance: The seismograph station at Manzanita Lake is already listed in the National Register of Historic Places for its significant association with NPS administration and rustic architecture. The seismographs themselves may also be eligible for listing (as objects) under the volcanology context if they retain integrity of design. The Loomis studio and residence is currently being listed in the NRHP as part of the Manzanita Lake Naturalist's Services Historic District, in part for its significant association with volcanology. Although no comparative analysis has yet been completed (as per the National Historic Landmark Survey requirements), Lassen cultural resources associated with Volcanology do not appear to be nationally significant. Lassen Peak's eruptions of 1914-15 contributed less understanding to the processes of volcanism than did the much larger eruptions of Krakatoa (1883), Mount Pelée (1902), Vesuvius (1906) and Katmai (1912).³³⁸

Registration Requirements: The significance of resources associated with Volcanology can only be conveyed by those resources that retain sufficient integrity of materials, design, location, and setting to convey an understanding of historic function and use.

³³⁷ Mt. St. Helens erupted ca. 1850 meaning that Lassen was not the only eruptive volcano in the contiguous United States in historic times. NPS historian Gordon Chappell to Historical Research Associates, Inc., 2003. On file at Historical Research Associates, Inc., Missoula, Montana.

³³⁸ Howel Williams and Alexander R. McBirney, *Volcanology* (Freeman, Cooper & Co., San Francisco, 1979), pp. 16-17.

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Context: Tourism and Recreation

The tourism industry, as initiated by private enterprise and as sustained and encouraged by the National Park Service, stands as the Lassen region's most long-standing economic enterprise. Tourists' needs spawned construction of a wide-range of infrastructure including roads, trails, accommodations, and vacation homes. Tourists' demands for scenic vistas, clean air, clean water, and outdoor recreation opportunities also inspired early conservation efforts. Known extant resources associated with the tourism industry include summer homes that remain in private ownership (concentrated at Hat Creek and Juniper Lake); the archaeological remains of Supan's Hot Springs; Drakesbad Resort at the head of the Warner Valley (NR listing pending [2003]); and early recreation trails (reconstructed and maintained by the National Park Service (see below). Archaeological sites may be found at Morgan Hot Springs, near Devil's Kitchen, and near popular fishing destinations, including Grassy/Horseshoe Lake, Twin Lakes, and Butte Lake.

Property Types

- Camp Sites/Developed Natural Features
- Tourist Accommodations
- Summer Homes

Significance: The Lassen region has historically been used as a summer haven for residents of the upper Sacramento Valley and San Francisco Bay area. These northern California visitors often stayed for weeks or months, or as long as the school calendar permitted. The built environment reflected this use: there were few grand hotels and resorts, but instead camp sites, summer homes, and rustic cabin complexes: historian Earl Pomeroy wrote "a tradition of informality persisted."

Camp sites will be located as near hot springs, bodies of water, or scenic vistas as possible given the constraints of access and level ground. Associated resources may include rough access roads and small-scale improvements such as simple willow bath houses and tent platforms.

Extant summer homes within Lassen Volcanic National Park are without exception located on private land, most often near the periphery of the park where reduced snowfall and gentler topography eased visitor access. The setting may have been chosen for its scenic qualities/recreation opportunities (providing the financial inspiration, for example, for the subdivision of homestead claims near Hat Creek and Juniper Lake), or may reflect the site's prior history as a mining, agricultural, or logging operation. The built environment will be simple, likely limited to seasonal shelter, access (roads and trails), and possibly recreation-related structures (docks, bathhouses, campfire circles).

Tourist accommodations within the larger Lassen region typically included developed hot springs, developed soda springs, road and trail networks, kitchen and dining facilities, simple accommodations, and recreation-related improvements (most often associated with horseback riding or boating).

If significantly associated with the industry, and if they retain integrity, recreation-related resources may be eligible for listing in the National Register of Historic Places under criteria A, C, or D. The period of significance extends from ca. 1860 until NPS acquisition or, for those resources that remain in private ownership, until the end of the historic period as defined by the National Register of Historic Places. Tourist-related resources constructed by private enterprise yet currently administered by the National Park Service may also be eligible for listing under the National Park Service Administration and Development context (see below).

Registration Requirements: Within the context of the larger Lassen region, character-defining features for accommodations or summer homes significant under criterion A include location and setting - proximity to the natural resource that inspired development - and design. In this instance, design relates most meaningfully to the larger integrated system of resources: does the property contain the principal features present during the historic period, including those providing access, shelter, and recreation?

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Those resources considered eligible under National Register criterion C must retain those features consistent with regional patterns of design and construction: simple scale and massing and a reliance upon native construction materials.

Camps sites may also be eligible for listing in the National Register of Historic Places under criterion A and D if the archaeological remains increase our understanding of the tourism industry as it developed in the Lassen region. Does the site represent recreation as a deliberate pursuit or as secondary component of other economic endeavors? What was the socio-economic standing of long-term campers? Were participants primarily women and children unencumbered by summer job/school burdens? How extensive was the built environment?

Context: NPS Administration and Development

Summary: Of all those who have traveled through, gleaned sustenance from, inhabited, managed, and enjoyed Lassen Peak and its immediate environs, the National Park Service has left the most obvious imprint on the land. Of the National Register-listed resources extant within Lassen Volcanic National Park, all but Nobles Trail, and Drakesbad Resort are directly associated with National Park Service administration (see table below). National-Register listed properties include the Horseshoe Lake and Summit Lake ranger stations, the Warner Valley Ranger Station and Mt. Harkness Lookout. Additional NPS resources nominated in association with this Multiple Property Submission include the Warner Valley Major Developed Area; the Lassen Volcanic National Park Highway; the Manzanita Lake Naturalist's Services complex; and the Manzanita Lake Campground Comfort Stations. Additional National Register-eligible resources may include the park trail system and picnic areas. Within the broad context of regional development, this emphasis reflects both the lack of concerted long-term development in the high-elevation lands prior to establishment of the national park and also the profound impact of the National Park Service on land use and development.

NPS Historian Linda Flint McClelland's *Presenting Nature: the Historic Landscape Design of the National Park Service 1916-1942* (1993) concludes with a multiple property listing for Historic Park Landscapes in National and State Parks. Use of the property types and registration requirements developed by McClelland and approved by the National Register of Historic Places allows evaluation of Lassen Volcanic National Park administrative resources within appropriate regional and national historical and architectural contexts.

Property Types

- Park Roads
- Trail Systems
- Major Developed Areas
- Minor Developed Areas
- Campgrounds; and Picnic Areas

Significance: A small percentage of park resources were constructed in the first decade after the park's establishment, and reflect initial visions of park layout and the park's most pressing and immediate infrastructure needs; these resources include buildings at park headquarters and the initial construction of the Lassen Park Highway. By virtue of dramatic increases in NPS funding during the Depression era, the vast majority of park-service related historic resources within the park date to the 1930s. (The second large group of related resources, those built during the Mission 66 funding cycle, will meet the National Register's age criteria [50 years old or older] as early as 2005. The National Park Service is currently developing a nation-wide Mission-66 context that will detail National Register registration requirements for this group of resources.) Through Depression-era public works programs, the NPS was able to improve and construct needed park facilities using preconceived ideas originating in the NPS Branch of Plans and Design. These buildings and structures are therefore significant memorials to the federal government's efforts to foster public works during the Great Depression, and to the CCC workers who provided the labor for their construction. The resources are also significantly associated

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with the twentieth century movement to develop national parks as public places and to conserve the nation's natural resources, wildlands aesthetic, and frontier heritage. All Lassen Volcanic National Park resources significantly associated with park administration and development will date to a period of significance that includes the period of initial construction, 1926-1931 or the Depression era, 1932-1941. NPS-constructed or adapted resources meeting the registration requirements listed below will meet National Register criteria A and/or C in any of the following areas: Landscape Architecture, Architecture, Community Planning and Development (park), Conservation, Engineering, Entertainment/Recreation, Politics/Government, and/or Social History.

Registration Requirements: Resources constructed by the Park Service were constructed according to specific design standards (criterion C) and a precise development plan (criterion A); registration requirements for these resources can therefore be defined with greater specificity and detail than for those vernacular resources associated with earlier contexts.

To be eligible for listing in the National Properties must:

- 1) be associated with the twentieth century movement to develop national parks for public enjoyment, to conserve natural features and scenic areas as public parks, to organize statewide systems of state or local parks, or to develop natural areas, including sub-marginal lands, for public recreational use.
- 2) retain several or all of the physical characteristics listed above that were developed for that area during or before the New Deal era (1932-1941).
- 3) reflect the following principles and practices of park landscape design developed and used by the National Park Service in national parks from 1916 to 1941.
 - Protection and preservation of natural scenery and features;
 - Prohibition of exotic plants and wildlife;
 - Presentation of scenic vistas through the location of park facilities and development of overlooks;
 - Avoidance of right angles and straight lines in the design of roads, trails, and structures;
 - Use of native materials for construction and planting;
 - Use of naturalistic techniques in planting, rockwork, and logwork to harmonize manmade development with natural surroundings;
 - Adaptation of indigenous or frontier methods of construction;
 - Transplanting and planting of native trees, shrubs, and ground covers to erase the scars of construction and earlier uses of the land.
- 4) possess historic integrity of location, setting, design, materials, workmanship, feeling, and association, and overall reflect the physical appearance and condition of the landscape during the period of significance. Changes and additions to the landscape since the period of significance, including new campgrounds, buildings, trails, roads, lakes, and recreational areas, diminish historic integrity and are considered non-contributing. Historic park landscapes containing such changes are eligible for listing despite these changes if the overall historic plan is intact and a substantial number of historic characteristics possessing integrity of design, location, materials, and workmanship are present.

A park landscape meeting the requirements listed above may be listed as a single historic district, or may be listed in combination with other park landscape types to form a larger historic district. Within Lassen Volcanic National Park, for example, the Lassen Park Highway served historically as a "parent landscape," designed to direct the visitor's experience, provide access to services, and to "present" significant views. This parent landscape was the central

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component of larger *designed landscapes* containing varied visitor and administrative resources (including entrance stations, campgrounds and picnic areas) and reflecting the master planning process. Entrance stations, campgrounds, and picnic areas are best understood within the context of the road and – if they retain integrity – would be included as contributing resources of a larger Lassen Park Highway district nomination. Individual resources within a landscape, for example, a picnic shelter, bridge, lookout, or water fountain, may be listed as an individual building, structure, site, or object, if it is significant for its landscape or architectural characteristics under criterion C and the historic landscape of which it was historically a part no longer possesses historic integrity. In some cases, a building or structure possesses major importance for its particular role, for example a museum important in the educational and interpretive program of a park, a fire lookout reflecting a particular design, or an arched rock-faced concrete bridge having a high degree of workmanship; these resources may also be listed individually.

CCC camps were designed to be impermanent; most buildings and structures associated with the camps were purchased by private parties and removed from the park boundaries, dismantled, or moved by federal agencies to alternative administrative sites and reused. These resources will possess too little integrity of location, setting, association, or feeling for individual listing in the National Register under criterion A but may be eligible as individual resources under criterion C, using the registration requirements detailed above.

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Section G: Geographical Data

Lassen Volcanic National Park is situated in north central California at the southernmost extent of the Cascade Mountain Range, within the boundaries of the Lassen National Forest. The park is comprised of approximately 106,000 acres, of which roughly 79,000 acres are defined as wilderness. The majority of the park is positioned in Shasta County, while smaller portions are located in Lassen County (eastern border), Plumas County (southeast corner) and Tehama County (southwest corner). Surrounding communities include the towns of Mineral located ten miles southwest of the park, Chester located ten miles southeast of the park and Viola located five miles west of the park. The closest major urban area is Redding, California, approximately forty miles west of the park. State Highway 44 runs east/west on the north side of the park, while State Highway 36 runs east/west on the park's south side. State Highway 89, also known as NPS Route 1 or the Lassen Park Highway, travels north/south through the center of the park.

Section H. Summary of Identification and Evaluation Methods

In association with this study, Historical Research Associates staff completed research at the National Archives College Park, relative to land patents and initial settlement; the Denver Service Center Technical Information Center, which maintains a complete set of blueprints, drawings, and management plans related to NPS development; and at the Western Archeological and Conservation Center (WACC) in Tucson, Arizona, where many historic documents related to park administration are being processed prior to return to the park. This material is not yet accessioned. In addition, HRA reviewed National Park Service records at Lassen Headquarters where historic photographs and a collection of unaccessioned historical material stored adjacent to the Central Files proved most valuable. Regional repositories included the Bancroft Library and the Geology Library, University of California, Berkeley; the California State Archives, Sacramento; and the National Archives and Records Administration, San Bruno, where researchers focused on record groups related to the United States Forest Service, the United States Geological Service, the National Park Service, and the United States Census Bureau (manuscript census). Local repositories included the Plumas, Shasta, Tehama, and Lassen county historical societies (each located in the county seat), and the Red Bluff public library. Finally, HRA was greatly assisted by park staff Karen Haner, Scott Isaacson, and Cari Kreshak, who cheerfully answered questions, scanned photographs, and handled the logistics of mid-winter visits, and by those long-time local residents who agreed to oral history interviews: Pam Koeberer Pitts, John Koeberer, John Janc, and Judd Hanna. Field survey was limited to those known historic resources not currently listed in the National Register of Historic Places and deemed management priorities by the National Park Service: Drakesbad Guest Ranch; Manzanita Lake Complex; the Warner Valley road, ranger station, and campground; and the Lassen Volcanic National Park Highway/NPS Route 1.

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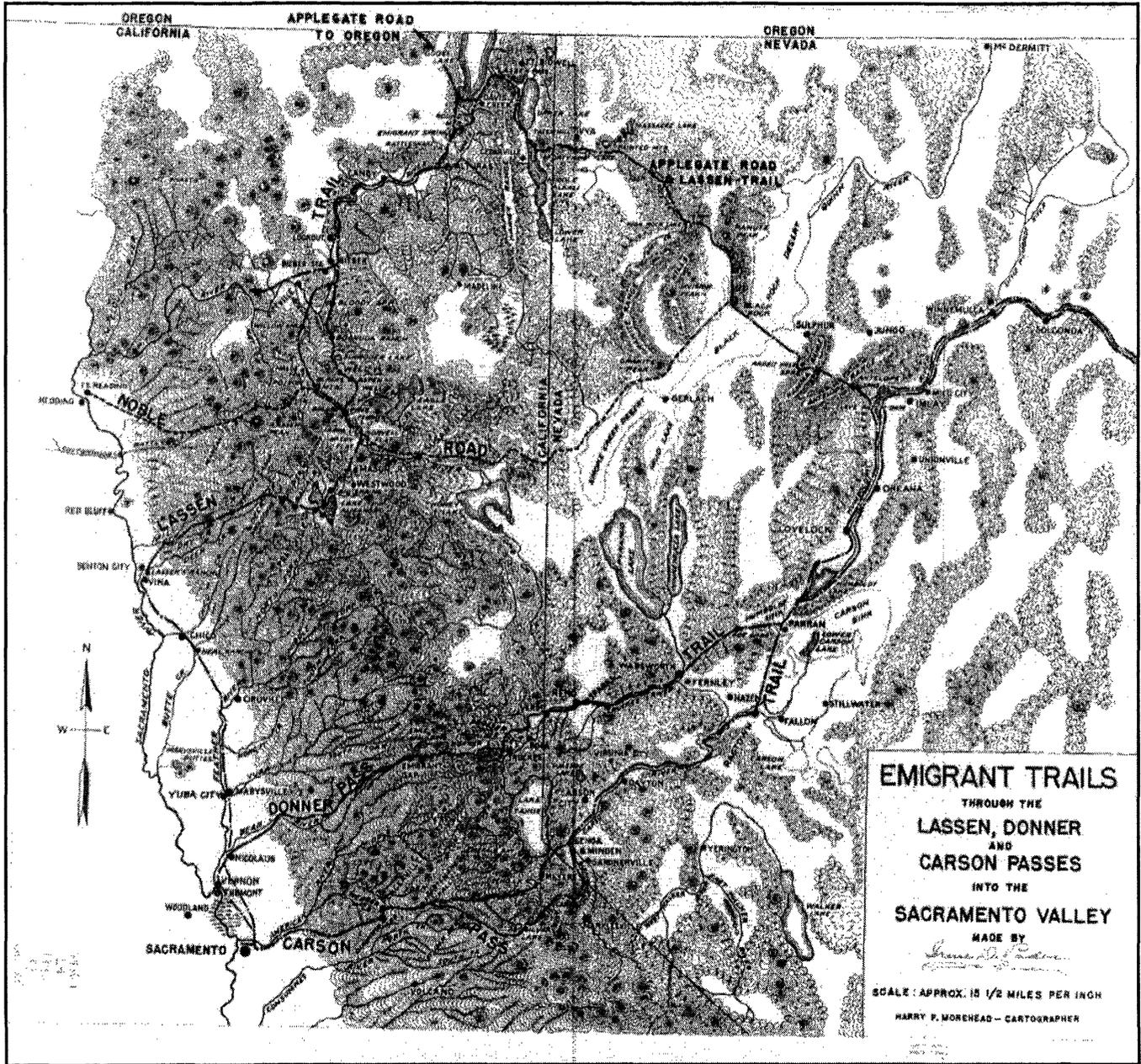
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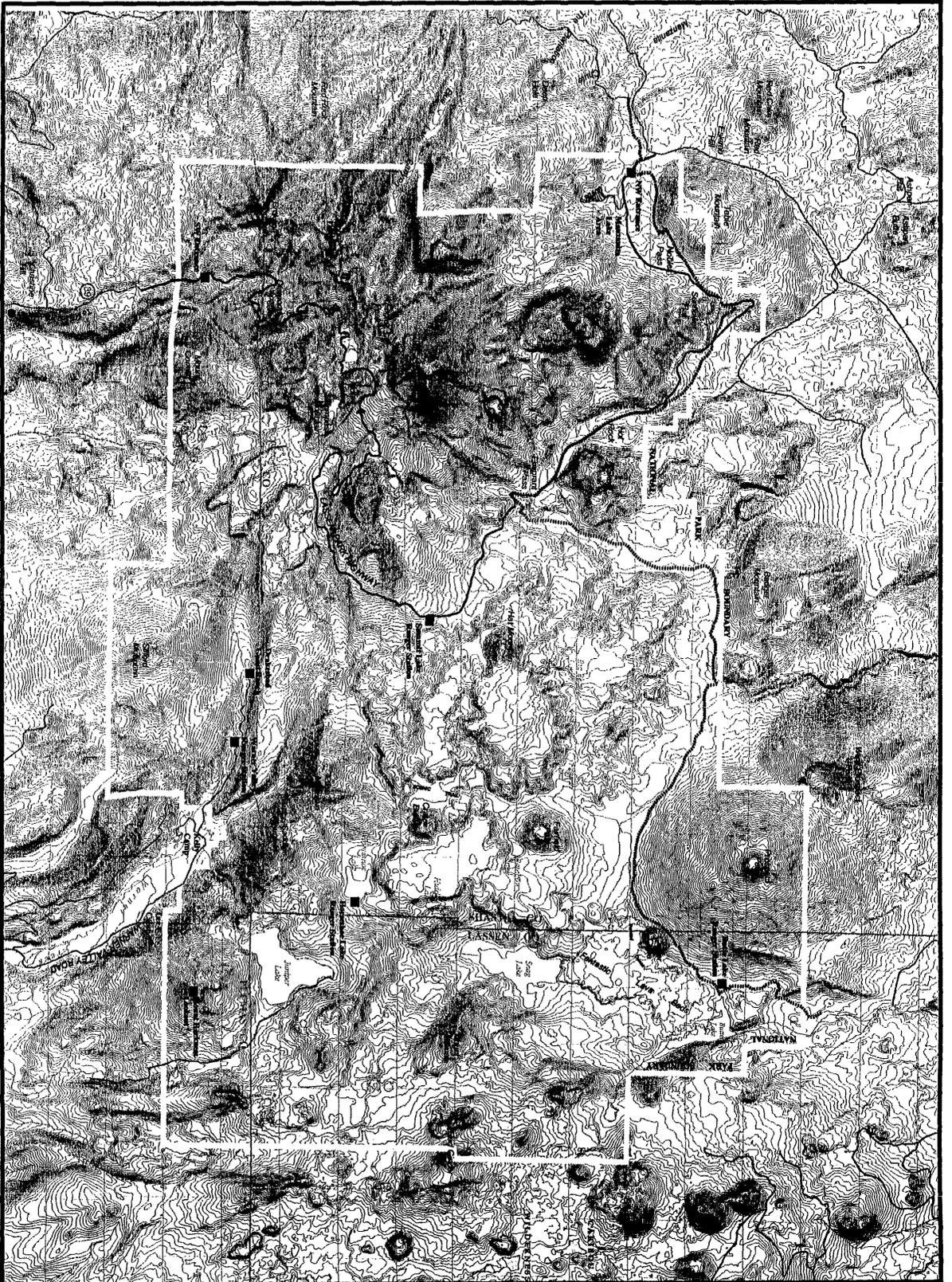
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CULTURAL RESOURCES

Lassen Volcanic
National Park

LEGEND

- FEATURES**
- Trail
 - Road
 - River or Stream
 - Lake
 - Park Boundary
 - Historic Flame
 - Nobles Trail
 - Developed Area

