



Lassen Volcanic National Park Historic Resources Study



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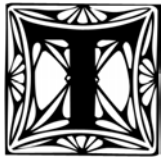
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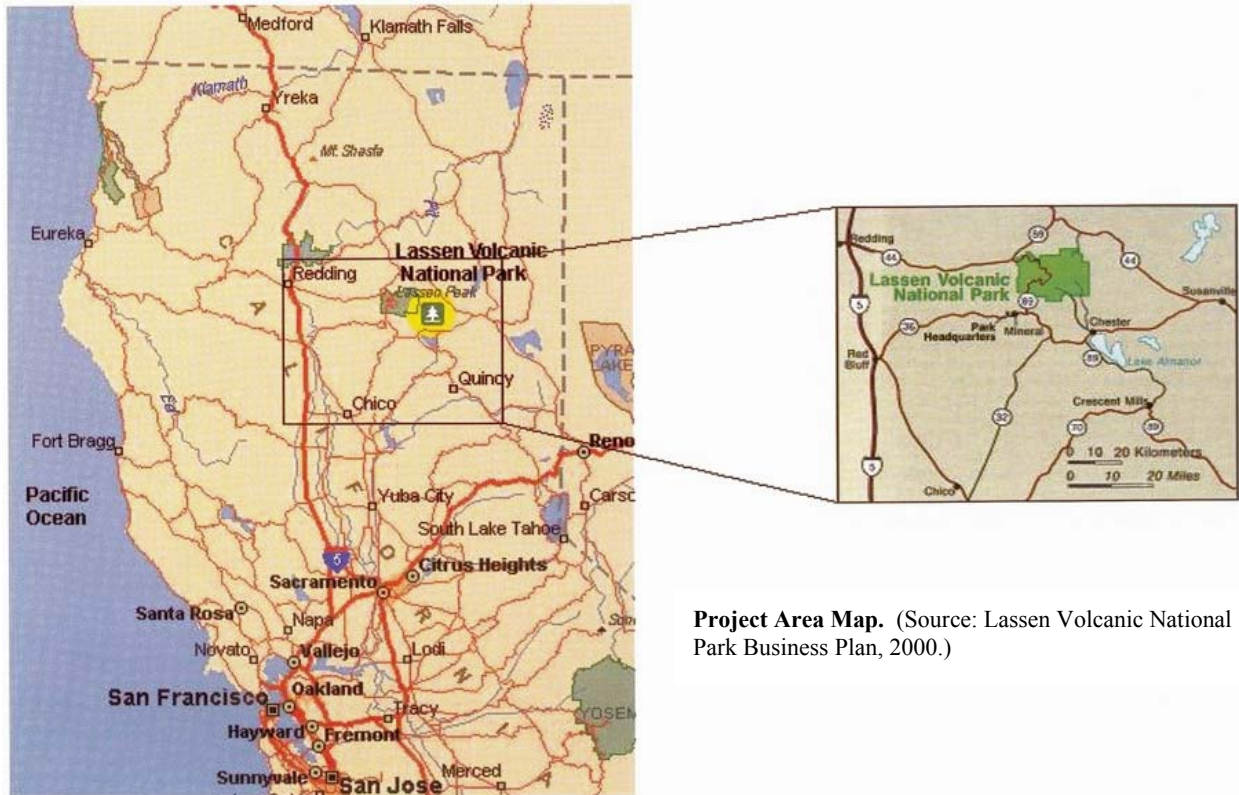
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Abstract



oday Lassen Volcanic National Park contains cultural resources associated with overland migration, mining, homesteading, recreation, and National Park Service administration. This *Historic Resource Study* synthesizes cultural resource information from all cultural resource disciplines in a narrative designed to serve managers, planners, interpreters, cultural resource specialists, and the interested public as a reference for the history of the region and the resources within the park. This HRS is derived from research in primary and secondary records related to environmental history, Native American use and occupation, exploration, land use, settlement patterns, and National Park Service administration and development. It defines themes of area history; establishes a relationship between events and the built environment; identifies time frames and periods of significance for historic contexts; and identifies links between national, regional, and local events.



Project Area Map. (Source: Lassen Volcanic National Park Business Plan, 2000.)

Introduction



ising 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 erupted with a roar and a tall plume of ash that captured newspaper headlines and soon attracted scientific attention from across the nation. This explosion began an eruptive phase of the volcano that would climax one year later and would not subside until 1921. Two years after the mountain's awakening, on August 9, 1916, Congress established Lassen Volcanic National Park in recognition of Lassen'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. Named features in the national park are suggestive of its wondrous and

awesome geologic history: Chaos Crag, Broke-off Mountain, Chaos Jumbles, and the Devastated Area.

Lassen Volcanic National Park followed Mount Rainier National Park (established 1899) and Crater Lake National Park (1904) as the third national park centering on one of the volcanoes in the Cascade Range. As historian Alfred Runte has shown, Congress looked for freaks and spectacles of nature to showcase in new national parks.¹ Mount Rainier was so honored because it was the greatest of the Cascade volcanoes, Crater Lake because it was one of a kind, and Lassen because it was so recently eruptive. Runte has aptly termed this policy "monumentalism": Lassen Peak's significance in 1916 lay in the monumental forces of volcanism exhibited across its blasted terrain.

In making the active volcano a national park, Congress continued a policy it had followed since the establishment of Yellowstone National Park in 1872. The policy reflected recognition of the area's scenic and scientific values as the "highest values" of the land and committed the federal government to the protection of those values. Early administrators of Lassen Volcanic National



Lassen Peak eruption, n.d. (Source: Historic Photo Collection, LAVO.)

Park remarked on how primitive, desolate, and remote the area was – a virtual “blank slate.”² The rugged and forbidding topography had discouraged intensive land use; from aboriginal times through the late nineteenth century, humans found the mountain climate and rough terrain of the Lassen Peak area inhospitable and concentrated their activity elsewhere. In 1939, a committee reported, “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.”³ This paucity of resources reflected another theme in the making of national parks: the political reality that Congress generally refused to name scenic and scientific values as an area’s “highest use” until it was reasonably satisfied that the area offered little else of economic value. The so-called “worthless lands” argument, according to Runte, served as a litmus test for national park proposals. Not coincidentally, Lassen Volcanic National Park

contains scant remains of mining, grazing, or lumbering. These resource extraction industries barely encroached on the Lassen Peak area before it became a park.

During the early twentieth century, human occupation and use of the Lassen Peak area began to change. First, the mountain elevations drew recreationists – making the area an attraction and a destination rather than a frontier. Then, with the eruption of Lassen Peak in 1914, the mountain achieved national fame. While the mountain and its environs attracted geologic interest as early as the 1860s, after the eruption the area became a focal point of numerous scientific investigations. Finally, with the establishment of Lassen Volcanic National Park in 1916, the human history of the area took a decisive turn. National park designation redefined human relationship to the land. The boundaries of the park set it apart from the surrounding area and human uses of the land were strictly regulated. The human presence



Drakesbad Lodge, n.d. (Source: Eastman’s Original Collection, Department of Special Collections, General Library, University of California, Davis. Used with permission of Department of Special Collections.)

became focused on leisure and recreation (in a national park context) and on administration of the national park as a public institution.

Methodology

HRA's research focused on four efforts: (1) compilation and mastery of the published literature; (2) familiarity with the primary sources on which the published literature stands; (3) original research in primary sources on issues that pertained specifically to cultural resources within the park; and (4) review of existing cultural resource documentation. Accordingly, HRA 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 were being cataloged prior to return to the park. In addition, HRA reviewed National Park Service records at Lassen Headquarters where historic photographs, alpha-numeric files, and a collection of unaccessioned historical material proved most valuable. Regional repositories included the Huntington Library; 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. 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 and Cari Kreshak who answered questions, scanned photographs, and handled the logistics of mid-winter visits, and by National Park Service personnel Robbyn Jackson, Gordon Chappell, Elaine Jackson-Retondo, Kimball Koch, Roger Kelly, and David Louter who all carefully

reviewed draft versions. We appreciate their comments and suggestions and hope that we have addressed their concerns in this final draft. We are also grateful to those long-time local residents who agreed to oral history interviews: Pam Koeberer Pitt, John Janc, John Koeberer, and Jud Hanna. Jud Hanna and Kerry Burke also opened their home to project staff and led an enchanted walk along Mill Creek, home of the Yani and later site of the Hanna ranch, to Morgan Hot Springs where generations of Sacramento Valley residents wiled away their summers within view of what would become Lassen Volcanic National Park.

The stories told in these documents and oral histories do not neatly conform to the current boundaries of Lassen Volcanic National Park. The park encompasses the high-elevation and isolated component of a larger land-use system that included the surrounding timber lands and transportation systems; cultivable valleys; and commercial hubs and population centers. These centers include Viola, Shingletown, Old Station, and Hat Creek to the north along historic transportation routes north to Oregon and west to Redding; Anderson, Redding, and Red Bluff to the west, in the hot lowlands of the upper Sacramento River Valley; and Mineral, Quincy, Chester, and Westwood to the south and southeast, in the dense forests and once mineral-rich streams that define Plumas County. The North Fork of the Feather River flows 60 miles to the south of the park, attracting first gold seekers and then the Western Pacific Railroad, seeking a route over the mountains, east to Salt Lake and west to San Francisco Bay. The Pit River and its Hat Creek tributary flow to the north and northeast; and the first eastward sign of the Humboldt desert rises to the east, where the timbered reaches of Eagle Lake country give way to semi-arid cattle range near Honey Lake and Susanville. Big Meadows, once the most heavily settled agricultural land in the immediate park vicinity, now lies under Almanor Reservoir, just south of the park.

It is this larger region that forms the geographical context of the following history. At its center lies Lassen Peak. (See project-area map in Abstract.)

Introduction Notes_____

¹ Alfred Runte, *National Parks: The American Experience*, rev. 2nd ed. (Lincoln: University of Nebraska Press, 1987).

² Anonymous (NPS Education Committee), "Recommendations Regarding Development of an Educational Program at Mount Lassen Volcanic National Park," no date (ca. 1926), Lassen Volcanic National Park Collection, Western Archeological and Conservation Center (WACC), p. 1.

³ Boundary Adjustment Committee, "Proposed Boundry [sic] Adjustments for Lassen Volcanic National Park," September 1, 1939. Unaccessioned Historic Material, Lassen Volcanic National Park, Mineral, California, no page. The committee consisted of John C. Preston, Lassen superintendent; Carl R. Swartzlow, naturalist; Maurice E. Thede, Associate Regional Forester; Lewis E. Bronson, U.S. Commissioner; Francis G. Lange, Resident Landscape Architect; and Raymond E. Hoyt, Regional Supervisor, Regional Office.

Chapter One

Cultural Overview



our ethnographically recognized, linguistically distinct groups, the Yana, Yahi, Atsugewi (Atsuge) and Mountain Maidu, incorporated the Lassen Peak area within their seasonal subsistence land base prior to and after the period of Euro-American contact.¹ Today, a small community of Atsugewi, “seven families only,” Selma Lamar told Lassen Volcanic National Park visitors in 1958, resides north of the park in the Hat Creek vicinity.² The Mountain Maidu, their traditional home land centered on the east side tributaries of the Sacramento Region, now number less than 2000 individuals, generally scattered among California’s Indian Reservations. The Yana community that inhabited the land south and west of Lassen Peak was largely destroyed in the open warfare that characterized California history after 1849, with survivors estimated to number less than 100 by the 1870s. These surviving Yana found refuge among the Wintu of the Redding area and in the Northern Yana territory of Montgomery Creek, adjacent to the Pit River tribe. Ishi, the last of the Yana, died in 1916.³

Because of their proximity to and interactions with each other and their use of an ecologically and geographically limited resource base – the Lassen Peak region – all four groups share many characteristics, including subsistence patterns, material culture, social organization, and ceremonial structure.

Archaeological Background

The development of the ethnographically observed cultural patterns extends at least as far back as the Paleo-Indian period in California (prior to 11,000 BP). The Paleo-Indian period is generally denoted by the appearance of megafauna and large, percussion-flaked and fluted dart points. The Archaic Period, 11,000 to 4,000 BP, is similar to the Archaic of other North American regions and is generally demarcated by a shift in projectile

points towards stemmed and shouldered point styles and a shift away from dependence upon megafauna to a more broad spectrum approach to subsistence. The archaeology of the local area – the Sierra Nevada and Cascade Region – does not become abundant until the Pacific period (4,000 – 150 BP). The Protohistoric Period, denoted by the presence of Euro-American trade items but preceding direct contact, is long for the Lassen area, extending between about AD 1590 until 1860 when Euro-Americans established sustained contact with the Yana, Atsugewi, and Maidu. In general, the density of archaeological sites in California is fairly sparse.



Louise Bone, Atsugewi (Hat Creek), Making Baskets, n.d. (Source: Negative #115.04, Historic Photograph Collection, LAVO.)

The Paleo-Indian period in California is heavily influenced by comparisons with the Great Plains Fluted Point Tradition (i.e. Clovis and Folsom). It is predominantly associated with the hunting of large game animals. It is also assumed that the early inhabitants of California must have been reliant, to a lesser extent, on smaller animals, birds, and available plant resources as some implements associated with the acquisition and processing of these materials have been observed in cultural assemblages. Unfortunately, only the Farmington region of central California has produced archaeological remains dating earlier than the Middle Archaic Period.⁴

The development of the historically documented cultures from the archaeological record has some antiquity in the Lassen area. Along the Pit River (Atsugewi territory) Pacific period sites contain cultural correspondence with Wintu sites in the archaeologically better known Redding area while the Yana and Maidu can be delineated at somewhat later dates. "Yana Archaeology" in the foothills of the southern Cascades contains rock shelters and open sites that closely resemble Martis complex sites (beginning around 3,000 BP) from the Sacramento Valley and Northern Sierra Nevada Mountains while early Maidu sites appear to have a separate cultural sequence beginning by 3,000 BP in the western Sierra foothills.⁵

Language Groups and Their Territories

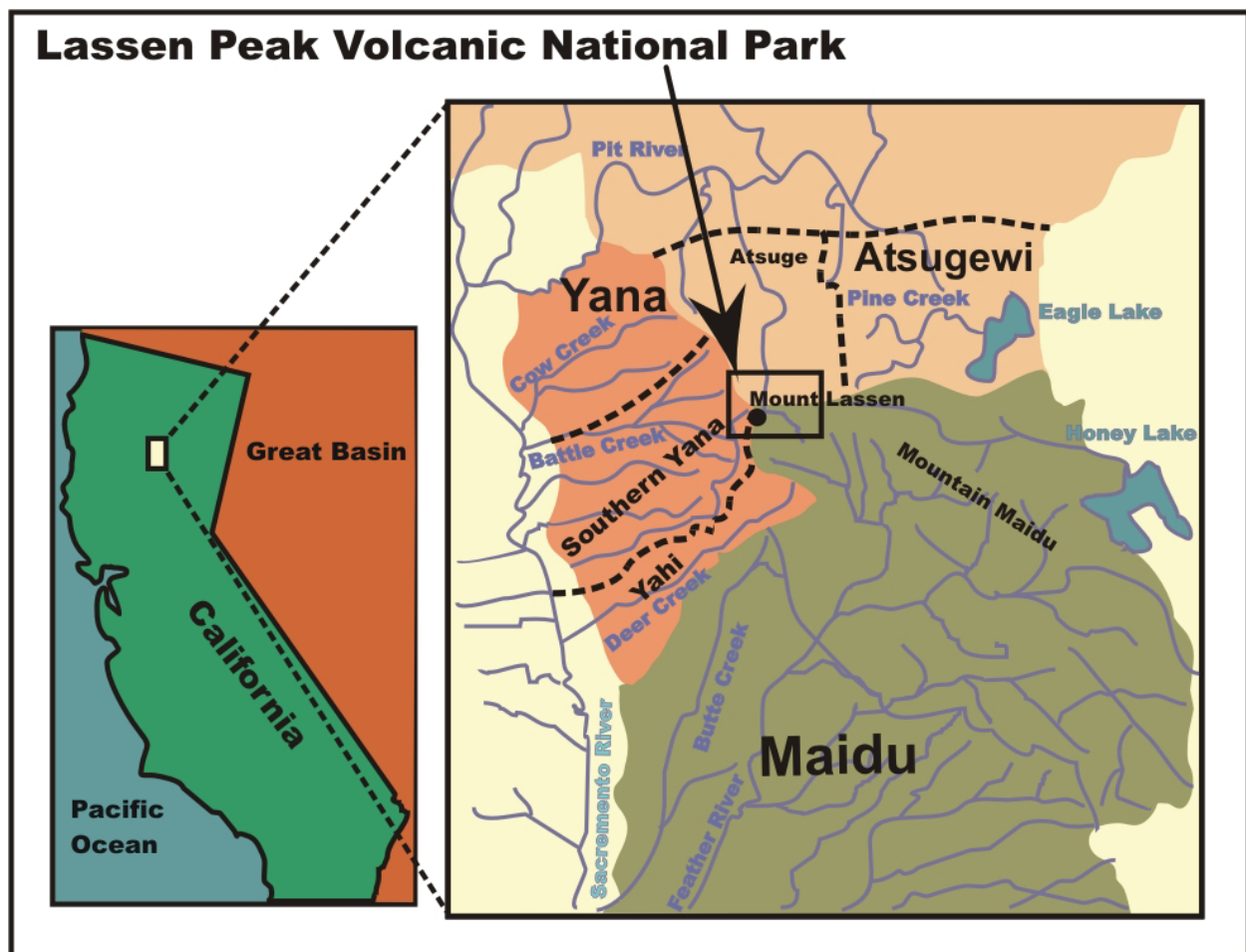
Four separate groups are identified as inhabiting the area around the base of Lassen Peak and occasionally using its slopes for seasonal subsistence forays and other cultural activities.⁶ The two sub-units of the Atsugewi (Atsuge and Apwaruge) form the Palaihnihan (Shasta) branch of the Hokan Language Group while the Southern Yana and Yahi speak separate and divergent dialects of Yana, also a branch of the Hokan Language Group.⁷ Alternately, the Maidu language is a branch of California Penutian.⁸ Maidu is broken into three dialects spoken by the various regional groups with Northeastern or Mountain Maidu being the dialect spoken by inhabitants of the Lassen Peak area. Relationships

between these local groups were, at times, tenuous. The general pattern of social interaction included both hostility as well as trade partnerships. Generally, the character of interaction among the Yana, Yahi and Mountain Maidu was one of hostility, while the Atsugewi maintained more peaceful ties with the surrounding groups, occasionally joining with the Northern Yana to defend against aggression from other California and Great Basin ethnic groups.

The Atsugewi are described as occupying the range north of Lassen Peak. The Atsugewi can be divided into two groups, the Atsuge (pine tree people) and the Apwaruge (juniper tree people).⁹ The Atsuge controlled the territory directly adjacent to Lassen Peak and had the most contact with both the Mountain Maidu to the south and the Yana and Yahi to the west. Atsuge territory included not only the northern half of Lassen Peak but also stretched to the rim of the Burney Valley to east of Hat Creek and the Pit River, and south to Snag Lake. Inter-marriage between the Mountain Maidu and the Atsugewi groups may have been important to territoriality because each group may alternately have depended upon fish and game resources under the others' ownership.¹⁰

The Mountain Maidu's territorial claims include the Mountain Meadows, Big Meadows/Lake Almanor, Butte, American, Indian, Genesee, and Red Clover Valleys as well as the areas surrounding Willow Creek, Susan River and Honey Lake.¹¹ It is reported that the Maidu regarded the Lassen Peak and Warner Creek vicinities as mysterious due to the volcanic features like hot springs, cinder cones, and lava flows and therefore rarely visited the locations.¹² Ethnographer Alfred E. Kroeber notes that the Mountain Maidu and Atsugewi boundaries, especially along the Pit and Feather Rivers and surrounding Lassen Peak, were difficult to delineate as both groups shared the areas and alternately claimed ownership.¹³

The Yana, as a whole, used land sandwiched between Little Cow Creek to the north, Pine Creek on the south, Lassen Peak on the east, and the Sacramento River on the west. Linguistically the four groups of the Yana can be separated into variations of Northern/Central and Southern/Yahi,



Yana, Yah, Atsugewi, and Maidu Territories within and surrounding Lassen Peak. (Source: HRA 2002.)

although these are of little importance to culture or dialect. Generally the Southern Yana occupied the areas south of Battle Creek and north of Mill Creek, while the Yah centered along Deer Creek, Pine Creek, and Rock Creek in far southern Yana territory. The Yah were the most aggressive of the Lassen area groups and were often embroiled in conflict with the Mountain Maidu. The Yana, in general, maintained positive relationships with the Atsugewi, Wintun, Shasta, and Nomlaki with whom they traded.¹⁴

Settlement and the Seasonal Round

The relative similarity between the terrain and the types of food available to all four groups resulted in similar patterns of settlement and seasonal use of various areas. All four groups

dispersed into the higher elevations of the Lassen Peak region during the summer months, in pursuit of deer (which migrated to the lush higher-elevation meadows as lower-elevation grasses shriveled and died); of roots, nuts, and berries found in the mountains; of the trout and steelhead found in the cold high-elevation streams; and in search of respite from the heat of the lowland valleys.

The predominant subsistence pattern is constructed upon the need to be at specific resource gathering locations as the resources were ready to be harvested. For broad-spectrum foragers, this meant mobility in the form of summer hunting camps at higher elevations, seasonal trips to productive salmon spawning streams, a return to lower elevations in fall to collect the very important acorns, and then

camping in semi-permanent winter villages in lower-elevation drainages protected from the cold and heavy snow of the mountain region.

Subsistence Patterns

Several generalizations about subsistence patterns and diets can be made for all four Lassen area groups, and also for the majority of California's native inhabitants. Perhaps the most important is that the native subsistence was based upon gathering a diverse array of resources, throughout an extended procurement season. For hunting, the bow and arrow was the most common method of felling game animals but groups also used dogs and surrounds for game animals and a variety of other methods for smaller animals and birds. A deer disguise was commonly used while pursuing deer. Fishing was conducted by several methods including using baskets and nets, weirs, poison, thrusting harpoons and hooks and lines. Away from coastal areas, vegetable foods constituted a greater proportion of native diets than did meat. Acorns, a storable resource, represented a staple food, and the most relied upon of the local resources. Other nuts and seeds were also important parts of native diets, as were berries. As during the prehistoric period, the seasonal settlement and subsistence patterns of the local Indians were driven primarily by the ripening/spawning/growth of local resources. If one resource failed, a contingency plan was in place to compensate for the lack of a precious food resource. These contingencies usually involved reliance on an allied group in another nearby location.

As a result of the shared need for scarce, if diverse, resources and the similar ecological niche inhabited by each of the four primary Lassen groups, hostilities between competitors were kept to a minimum.¹⁵ The overall pattern of sharing resource areas is best described by Garth:

If the acorn crop at Hat Creek failed, the Atsuge went to Montgomery Creek (Yana) or to Big Bend for acorns. In return the Yana and Achomawi were free to use the Atsugewi lands during the root-digging season. If the root crop failed in both Big Hat Creek and Dixie Valley, the Atsugewi went to Big Valley or Big

Meadows to dig. At salmon-spawning time the Pit River Achomawi welcomed the Atsugewi when the latter came to fish for salmon, and allowed them to use some of the best fishing places.¹⁶

Cooperation of shamans, intermarriages and other kinship ties, and trading partnerships were common risk-management strategies, designed to cement positive relationships between the Lassen groups, and the shared harvest that those relationships assured.

Game Resources

Of all the available game resources, deer were the most important to the Lassen groups. Other game animals sought by hunters included elk, mountain sheep, antelope, black and grizzly bears, wildcats, mountain lions, and possibly bison. Smaller animals and birds included cottontail, snowshoe, and jackrabbits; ground squirrels, skunks, badgers, rats, porcupines, woodpeckers, quail, ducks and geese. Since deer hunting was considered the most industrious of the male tasks, ethnographic information is more readily available on it than on other hunting tasks.

The most popular method of hunting deer was stalking while dressed in a disguise. The disguise consisted of either an entire suit of deerskin accompanied by a deer headdress or just the headdress. Hollowing out the antlers lightened the headdress. As the hunter neared a grazing deer, he pretended to graze in order to gain an excellent vantage before shooting the deer with his bow. This tactic is described as so efficient that a hunter could often fell two or three animals in a single instance.¹⁷ Other deer procurement methods included surrounding the herd using manpower, burning, dogs, and/or fences. Deer blinds and deer pits are also described. Occasionally a hunter would stalk a deer to exhaustion by following it and not allowing it to rest or eat for two or three days making it an easy target for the hunter's arrows. Deer, and potentially mountain sheep and antelope, were driven off cliffs. "Deer power" was an important component of a man's identity and much effort was expended in its procurement. Both pre- and post-hunting rituals were necessary to maintain skill and good luck in the hunt.

Preparation of meat was generally conducted by slow roasting or by boiling. Venison was also stored for winter consumption by air drying it or using the aid of a fire to dry the meat. Venison was not smoked. The jerked meat was then stored in large baskets. In winter the meat was dried inside the earth lodges and may have been baled and slightly smoked for some preservation.¹⁸

Fish Resources

All four Lassen groups relied upon fish, which were a valuable resource. Fish species commonly harvested included salmon, steelhead, rainbow trout, eels, suckers, and minnows as well as crawfish and fresh water mussels, harvested with gill nets, spear and harpoons, basket traps, lines and hooks, bow nets and sacks. Fish, like game meat, was generally roasted or boiled and portions were then air dried for storage.

Not all fish species were available in all groups' areas, requiring economic partnership with other groups. For example, the Atsugewi had very limited access to good salmon spawns and paid groups for access to the Sacramento River spawning grounds with a percentage of their take. The Yahi, Yana, and Maidu had some access to salmon and steelhead spawns in their territories but also maintained economic ties with other groups for access to more productive runs.¹⁹ Rainbow trout, though, were generally available either in landlocked lakes or mountain streams within all groups' areas.

Methods for catching fish varied depending upon the group's preference and the variety of fish. The most common methods included angling (line and hook), spearing or harpooning, gill netting, and the use of bow-nets. One of the most interesting methods was the use of natural falls where fishermen perched to catch ascending fish in baskets as they jumped the falls. Temporary damming of streams to create back pools and maintenance of good fishing grounds is also reported.²⁰ One method of maintaining good fishing areas was the placement of light colored rocks in pools to provide better visibility. Poison was also used in back pools to bring fish to the surface for easy collection.

Vegetable Resources

Vegetable resources were a primary staple of the diets of Lassen-area groups. The vegetables used by each of the four groups varied greatly due to location, elevation, and ecological niche settled by each group. Roots and bulbs were most vital, but green leafy vegetables including clover tops and carrot-like tops and mushrooms were also eaten. While collection of vegetable foods was primarily a women's activity, Yana men employed one method of root-crop collection due to its comparability to the hunting sphere: gopher and other rodent burrows were robbed of the collected root stores by Yana men. The collection of the first root vegetables of the spring season was important and overseen by shamans and medicine men, especially the first collection of epos roots, an important food source.

The primary method used by women in root digging was the digging stick, which was used to pry the root out of the ground. After the root was brought to the surface it was tossed into a basket carried by the woman on her back. Root skins were later removed in a process using water, sand, and a shallow basket.²¹ Storage and cooking style depended upon the vegetable variety.

The most prominent and widely used root was epos or yampah (*Perideridia bolanderi*) or *Eulophus bolanderi*. Epos roots were dried and stored, and ground when ready for use. This root was preferred over most others and was used in soups and in breads. Other roots included *camas* and *brodeia* bulbs, tiger lily bulbs, wild onion, and other members of the lily and parsley families. Camas was roasted, then ground and shaped into cakes before being re-roasted and then stored.²² Tiger lily bulbs were roasted and consumed immediately.

Nuts and Berries

The acorn was the predominant and most important food resource of the Lassen Indians due to its wide availability and the ease with which it could be stored. Acorns were gathered by groups of women in the fall (September and October). Like the first vegetables, the first collection of acorns was immediately consumed and many prayers and activities coincided with the activity.

Acorns were collected and stored in large hopper baskets and covered with bark while still in their shells. Some of the Lassen groups preferred to shell, split, and dry the acorns prior to storage. Twelve varieties of acorns are present in the local region, but the black oak, canyon oak, and Sierra live oak varieties were preferred. Descriptions of the various methods of preparing acorns are numerous in the ethnographic literature and should be consulted for each of the independent groups – as they all vary slightly.²³ Generally, acorns were shelled and then ground into meal using hopper baskets and stone mortars. Acorn meal was prepared for consumption as bread or mush. Depending upon the variety, acorn flour might need to be leached of tannins in order to be edible.

Various other nuts and seeds used by Lassen groups included the seeds of several varieties of sunflowers and balsamroot; buckeye and hazelnuts; and sugar and digger pine nuts. Sunflower seeds were beaten and cooked, pounded into flour and processed into cakes, or eaten raw.²⁴ Hazelnuts were eaten raw and buckeyes were milled in a similar way to acorns. Pine nuts were mashed and consumed raw.²⁵

Berries were also an important seasonal resource for the Lassen groups and several varieties were used in differing fashions. The list of edible berries present in the local area is long, but the most prized berries included Manzanita berries, red berries of the Skunk bush, and wild plums. Other edible varieties included chokecherries, serviceberries, gooseberries, huckleberries, currants, Oregon grape, buckthorn, juniper, thimbleberries, raspberries, barberries, and elderberries.²⁶ Manzanita berries were gathered in July and August in the Lassen Peak area by all groups then dried, pounded into meal, and stored for later consumption as cakes or in cider. Skunkbrush berries and elderberries were often mixed with manzanita meal. Wild plums and juniper berries were either eaten fresh or dried and stored. Chokecherries and serviceberries were mashed and eaten raw as a paste.²⁷ The remaining varieties were eaten raw as they were picked.

Material Culture

Tool technology of the Lassen groups focused primarily on collection, processing, and storage of vegetal and animal foods. For this reason, one of the major focuses of published reports on Maidu, Atsugewi, Yana, and Yahi technology focus on variations of basketry forms and decorative styles. Other important items included the bow and arrow (both a hunting tool and a weapon) and grinding implements used to process food. Habitation structures were generally simple semi-subterranean structures, at longer-term village sites, or mobile lean-to structures used in seasonal, short-term camps. Clothing and adornment were very simple and transportation-related resources were limited due to the rough terrain and shortage of navigable streams. (Transportation was generally limited to canoes and tule balsa rafts on navigable waterways and by foot across the trails that crossed the Lassen area.)

Tool Technology

Household implements and weapons/hunting tools dominated the toolkits of the four Lassen groups. The most important non-basketry items in the toolkits of the Yana, Yahi, Maidu and Atsugewi were the bow and arrow and the grinding stone. Other important items included various implements of stone, wood, bone and antler used for creating and maintaining other materials imbedded in the food quest. Only one additional tool was present in the general toolkit that was used specifically for combat – the thrusting spear. (Basketry items will be discussed separately in a following sub-section, even though they apply to the tool-technology category.)

Bow and arrow technology, while similar among the groups, varied in style, materials, and style of release. Garth provides a description of Atsugewi weapons, which is generally applicable to those of other groups.²⁸ The most common bows were recurved and made of yew with deer sinew strings and salmon skin glue. The material used for arrow foreshafts depended upon the use of the arrow. Arrows with stone points were commonly constructed of cane, rosewood, or serviceberry wood and were used for warfare and larger game. Arrows with barbed or sharpened wooden points

were generally made of cane and were reserved for hunting smaller mammals and birds. Bone-pointed arrows were common for hunting deer but no wood is specified for their construction.²⁹ Stone projectile points, as described ethnographically and also as recovered in archaeological settings, were made of either obsidian or basalt, and were barbed or stemmed. Corner- and side-notched points also occur but are limited in number.

Heavy, flat grinding stones were used to process a variety of vegetable resources including acorns, buckeyes, sunflower seeds, and camas. It was the custom of some groups to re-use the grinding stones left behind by past inhabitants of the area (perhaps even prehistoric). The most common method of grinding food was to place a hopper-basket with an open bottom on the slab, place the raw seeds or nuts inside the hopper and grind them against the slab with a long, stone pestle. The pestles were used for both grinding and crushing/pounding. Mullers, or seed crushers, were similar but were rectangular and were used without the hopper basket.³⁰

Fishing implements included composite harpoons, thrusting spears, bone hooks, and twined nets. Nets included both dipping and gill varieties. Gill nets reached lengths of up to 30 feet long by three feet high.³¹ Dip nets and bow nets and seine nets were also used to catch a variety of fish species. Salmon fishing was conducted largely through the use of composite harpoons with barbs and toggles constructed of bone, while trout were commonly speared with bone or wood-tipped spears. Single- and double-barbed hooks were used with a gig method.

Other tools commonly used by the Lassen groups included digging sticks, brushes, split cobble choppers, awls, shuttles, wedges, spoons, and drills. Digging sticks were long mahogany or oak sticks with handles used to pry roots from the ground. Brushes used for stirring acorn meal were commonly made of deer tails or soap plant fibers. Split river cobbles were used for chopping tasks. Knives were made of chipped stone, horn, and bone. Bone awls were used in sewing and both eyed and open-notched examples are reported. Wooden shuttles were constructed for use in

weaving. Deer antler and wooden wedges (used in conjunction with clubs) were used for wood splitting. Spoons were the predominant eating utensil and were most often constructed from mussel shells. Drills were very common and important for several tasks. Fire drills consisted of a long buckeye stick that was twirled, by hand, on a block of incense cedar or juniper.³² Both sexes used this tool but men made fire if they were in camp.

Weapons of warfare were not as varied or prevalent as with groups in other regions. The Atsugewi report that they used a sharpened stone axe, but not for warfare.³³ The thrusting spear, a four-foot long shaft with a large projectile point is the only example of a weapon used specifically for warfare.

Basketry

Basketry was an important skill, resulting in the production of many functional items and providing a venue for artistic representations. Generally, the four Lassen-area groups constructed baskets by coiling or twining. Schulz provides a detailed account of the process of creating baskets, their various shapes, and the artistic details used by each of the four groups.³⁴ Originally, the two types of manufacture are believed to have been limited to specific areas, with the Lassen area located at the interface of the two basket making-styles. It has been assumed that each of the four groups originally used only one style of manufacture. By the historic period, however, the two styles had diffused and most local groups were cognizant of both methods of basket making.

Common basket forms included those built in a roughly circular shape and used for dipping, storage, cooking, burdening, and as trays or covers. Women also wove hats and mats. The most common materials used in the creation of baskets included willow ribs or rods, the inner bark of redbud, bear grass, maidenhair and bracken fern, hazel roots and pine roots. Coiled basketry was constructed using a technique where an awl was used to bind alternating rows of willow rods together. Twined basketry begins with several ribs radiating from a common center, working from the bottom of the basket to the top,

curving the rods nearer the top to create the basket's form.

Basketry materials became quite brittle and were soaked well during the creation process, after the basket was completed the soaked form was allowed to dry and in doing so retained its shape indefinitely. An open style of weaving, not as tightly woven as coiled or twined, was used to create less durable items like mats. Each of the four groups substituted various materials for basket components and claimed several designs implemented in the baskets not used by others.

Habitations

House forms varied only slightly between the four Lassen area groups. The general habitation structure used in Atsugewi and Maidu winter villages was the semi-subterranean earth lodge, or pithouse. Yana and Yahi winter houses, and those of poorer Maidu and Atsugewi families, consisted of bark slab, conical lean-tos. For all four groups, summer structures were extremely temporary versions of the lean-to, thrown together during rain or other adverse weather, or circular camp enclosures of brush or tree limbs that provided some protection.

Pithouses generally had a circular ground plan where the soil was excavated to between three and four feet deep. The depressions were between 20 and 40 feet in diameter and differences in size depended upon the wealth of the family and the number of families living in a single habitation.³⁵ Maidu pithouses were lined with split logs and bark and two or three oak posts supported the roof beams.³⁶ The beams held up the roof covered with the dirt and debris from the pit excavation. Atsugewi pithouses had a single central post that supported a series of planks and stringers.³⁷

Bark lodges or shade lodges were also common fixtures in Lassen area villages. These temporary structures could be conical or rectangular and generally were surrounded by a two- to three-foot-high excavated embankment. Variations on a pole frame (either stacked or cross- framed) supported bark slabs, branches, grass and leaves.

Larger villages generally contained a variety of the house types. Typically, the wealthiest man (who was also the headman) had the largest pithouse. This home was also used as the meeting place, sweat lodge, and dancehall. Poorer members of the group lived in the conical or rectangular bark houses and only one family lived in each structure. Menstrual seclusion huts were also present along the fringes of villages and were simply versions of the conical lodges.

Ceremonial and Recreational Activities

The Atsugewi, Maidu, Yana and Yahi each possessed similar ceremonies, religion, and recreation. Ceremonial systems and worldviews centered primarily on daily life and local economies. Shamanism played a very important role in the daily lives of all four groups. Games and gambling represented social interaction between villages and groups, as well as respite from labor. Music and art were less institutionalized and were generally associated more closely with the work of shamans (in the case of music), recreation, or were expressions made in the utilitarian materials (possibly due to the lack of actual free-time in the difficult ecological niche).

Aside from "first roots" ceremonies (described in the section on subsistence), puberty rites, and the acquisition of hunting power, few activities were directly tied to defined religious or ceremonial events. Limited ceremonialism is noted for all of the groups with the exception of descriptions of the late diffusion of the Ghost Dance and the possibility that the Kuksu Cult and Dance Cycle may have existed among the Mountain Maidu and the Southern Yana and Yahi.³⁸ The most common example of a situation that contains both religious and recreational connotations is the sweat. Sweats, generally held in the lodge of the headman, were associated with smoking, dancing, some music, and held many religious values.³⁹

The worldview and religion of the Lassen groups was focused on their role in their own economy and the acquisition of spirit power to aid

them in life. Nature spirits were abundant and could take on human form. Interaction with such spirits could have both positive and negative effects on an individual. Luck, questing for personal power, and protection from illness constituted the predominant focus of individual's religious lives. Access to spirit power was essential and various types existed, including beaver, hummingbird, lightning, and weasel power.⁴⁰

Predominantly, activities that address ceremonialism in other culture areas are, in the ethnographic literature of Lassen area groups, described more in terms of social gatherings. These activities include smoking tobacco, dancing, and participating in sweats. Other luck or magic-oriented activities included the use of charms. Two charms are described in the literature and include wearing turtle shells on a belt to protect from rattlesnake bites and the rubbing of oneself with a charm stone for luck in gambling. Charmstones were either water-rounded cobbles with a band of color or a piece of quartzite crystal that was kept in a secret hiding place (sometimes a rattlesnake den).⁴¹

Shamanism and curing

Shamanism and curing were perhaps the most important facet of Atsugewi, Maidu, Yana, and Yahi ritual and spiritual lives. Some variation in specialties and varieties of shamans exists between the four groups but the healing powers and expected role of shamans are similar in all situations. The healing properties of shamans' power was derived from the supernatural realm and should not be confused with the knowledge of herbs and medicinal plants possessed by members of each group (usually women). Becoming a shaman was either hereditary or a power acquired through rigorous vision questing. Occasionally, shamans were involuntarily "recruited" by their power spirits during times of illness. While a shaman did not function as a headman, their influence was substantial. Although women had the potential to become shamans, their powers were generally less than those of men.

Music, games, and art

Music in the culture of the Lassen area groups was quite limited and performed by men. Most often, especially in dance or sweat settings, a drum or other rhythm instrument was all that was used. The instruments were few and generally held distinct uses. For example, cocoon rattles were highly sacred and used only by shamans and deer hoof rattles were used only during girls' puberty rites. Other instruments included the split stick clapper, which was used in several occasions, and whistles of bone or wood that were used during dances. Playing of bows (as in the utilitarian form) and flutes was done strictly for amusement.

Games figured prominently in Atsugewi, Maidu, Yana and Yahi social life. Most games were betting and guessing games, and played when villages united for social interaction. The guessing generally centered upon the possession of incised sticks, bones, or animal teeth. Games could last up to three or four days and might be accompanied by feasting ("Big Time") and singing. Women were allowed to take part in the gambling. All groups participated in various ball games, foot races, and a specific game common to Californian Indians called "shinny." Interestingly the Maidu and Atsugewi allowed women to play shinny but the Yana did not.⁴² (Shinny is played on a field and the primary implements were sticks that were used to catch and throw the ball into goals.)

Basketry provided a serious medium for craftsmanship and design but functioned generally as a utilitarian construct rather than as art. Jewelry and adornment provided the main other artistic venture among the four groups. Pictographs and petroglyphs occur in the area around Lassen Peak, but are not attributed to the local groups (by anthropologists or by the groups themselves).⁴³ The Maidu are solely known to have had some interest in poetry and some of their verses are recorded.⁴⁴

Worldview

Generally, the beliefs of the Lassen area groups focused upon industriousness in the difficult economy and explained the natural phenomena around them (as worldviews tend to

do). Previous ethnographers have tried to explain the consistencies between the groups as well as to identify how the presence and shared exposure to Lassen Peak and its earthquakes and eruptions may have affected each local group. All four groups have distinctive creation stories and generally lack knowledge of other places, suggesting that each group developed independently in the area over a long period of time. Archaeological evidence supports this supposition.

Many of the myths of the Lassen-area groups are based upon specific events and use moral messages as the key to the story. For example,

stories may explain the origins of fire, sex, death, marriage, birth, or the creation of water and land. They further substantiate certain customs that each group may follow. General creation stories relate how Coyote, and Silver (Silver-Gray) Fox created people, plants, and animals from the primordial sea.⁴⁵ Other important mythical animals in the Lassen cosmologies include Turtle, Lizard, Gray Squirrel, Cottontail and Silkworm.⁴⁶ Several mythical creatures figure prominently in groups' beliefs. These beings include the water grizzlies and serpents of the Yana. Others include various forms of spirits in human form, human-eating little people, and mythical dogs.⁴⁷



Atsugewi bark house. (Source: Schulz, *Indians of Lassen*, 1954.)

Chapter One Notes_____

¹ This chapter provides only a very brief account of the cultural behavior of the four groups, with emphasis on land use rather than social structure or political organization. The spiritual importance placed by area groups on Lassen Peak and other volcanic features is a complex and sensitive topic and is also not addressed here. The National Park Service is currently preparing a *Traditional Use Study* for Lassen Volcanic National Park, to be completed in 2003. Paul E. Shultz, *Indians of Lassen Volcanic National Park and Vicinity* (Lassen Volcanic National Park: Loomis Museum Association, 1988 [reprinted from 1954]), provides a more detailed description of the complexities of the interactions, shared ecological adaptations, and various cultural behaviors of the Yana, Yahi, Atsugewi, and Mountain Maidu. The primary texts referenced in these footnotes are also recommended to provide additional information on the individual aspects of the cultures for each of the four independent groups.

² Selena Lamar, "Indian Lore," taped recording of Atsuge basketry interpretive presentation, Lassen Volcanic National Park, August 1958. On file in Cultural Resource Office, Lassen Volcanic National Park, Mineral, California.

³ See <http://www.nmnh.si.edu/anthro/repatriation/ishirep.htm> (April 2003).

⁴ William J. Wallace, "Post Pleistocene Archaeology, 9000 to 2000 BC," in *California: Handbook of North American Indians*, vol. 8, William Sturtevant, editor (Washington D.C.: Smithsonian Institution Press, 1978), pp. 25-35; and Joseph L. Chertkoff, "Sierra Nevada and Cascade Ranges," *Archaeology of Prehistoric North America: an Encyclopedia*, Guy Gibbon, editor, (New York: Garland Publishing, 1998), pp. 762-767.

⁵ Albert B. Elasser, "Development of Regional Prehistoric Cultures," in *California: Handbook of North American Indians*, vol. 8, pp. 37, 52, 53, 57.

⁶ Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, pp. 26-27

⁷ Jerald J. Johnson, "Yana," in *California: Handbook of North American Indians*, vol. 8, pp. 361-369 and T.R. Garth, "Atsugewi," in *California: Handbook of North American Indians*, pp. 236-243.

⁸ Francis A. Riddell, "Konkow and Maidu," in *California: Handbook of North American Indians*, vol. 8, pp. 370-386.

⁹ Even though the Atsuge are originally described discretely, specific examples may refer only to the larger sub groups. For the sake of this section, the most precise ethnic unit that can be determined for each specific trait is named in the text as corresponds to the original citation.

¹⁰ Thomas R. Garth, "Atsugewi Ethnography," *University of California Anthropological Records* 14, no. 2 (1953): 130.

¹¹ Riddell, "Konkow and Maidu," p. 370.

¹² Roland B. Dixon, "The Northern Maidu," *Bulletin of the American Museum of Natural History* 17, part 3 (1905): 124.

¹³ Alfred E. Kroeber, "Handbook of Indians of California," *Bureau of American Ethnology Bulletin No. 78*, 1925, p. 391.

¹⁴ Johnson, "Yana," pp. 61, 363.

¹⁵ Occasionally relations between groups deteriorated. One example is an early cooperation and sharing of berry and acorn grounds between the Yana and Atsugewi. This deteriorated over time and they later became enemies. Johnson, "Yana," p. 363.

¹⁶ Garth, "Atsugewi Ethnography," p. 130.

¹⁷ Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, p. 47.

¹⁸ Garth, "Atsugewi Ethnography," p. 133.

¹⁹ Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, p. 51.

- ²⁰ Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, p. 51.
- ²¹ Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, p. 58.
- ²² Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, p. 58.
- ²³ Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, pp. 60-62 provides a general overview; Garth, "Atsugewi Ethnography," pp. 137-138 provides the definitive Atsugewi example; E. Sapir and Leslie Spier, "Notes on the Culture of the Yana," *Anthropological Records*, University of California, Vol.3, No.3, 1943, pp. 249-252, provides a description for the Yahi and Yana; and Dixon, "The Northern Maidu," pp. 181-192 provides an adequate example of the Maidu acorn preparation process.
- ²⁴ Sapir and Spier, "Notes on the Culture of the Yana," p. 251; and Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, p. 62.
- ²⁵ Sapir and Spier, "Notes on the Culture of the Yana," p. 251.
- ²⁶ Garth, "Atsugewi Ethnography," pp. 138-139; and Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, p. 65.
- ²⁷ Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, p. 65.
- ²⁸ Garth, "Atsugewi Ethnography," pp. 153-154.
- ²⁹ Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, pp. 74-75.
- ³⁰ Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, pp. 74-75.
- ³¹ Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, pp. 51-52.
- ³² Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, pp. 74 and 81.
- ³³ Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, pp. 81-82.
- ³⁴ Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, pp. 85-97.
- ³⁵ Garth, "Atsugewi Ethnography," p. 143.
- ³⁶ Riddell, "Konkow and Maidu," p. 376
- ³⁷ Garth, "Atsugewi Ethnography," p. 143.
- ³⁸ The Ghost Dance diffused into northern California after 1870. It began on the Plains as a response to the poor relations between Plains Indians and the United States Government based upon a prophecy by the Piaute, Wovoka. The Kuksu Cult was ceremonial cycle of dances practiced each year where participants wore elaborate costumes and feathered headdresses and accoutrements.
- ³⁹ Johnson, "Yana," p. 363-364.
- ⁴⁰ Garth, "Atsugewi Ethnography," p. 187.
- ⁴¹ Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, p. 158.
- ⁴² Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, p. 152.
- ⁴³ Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, p. 120.
- ⁴⁴ Riddell, "Konkow and Maidu," p. 385.
- ⁴⁵ Garth. "Atsugewi Ethnography," p. 195.
- ⁴⁶ Schulz, *Indians of Lassen Volcanic National Park and Vicinity*, p. 148. One common myth to all four groups is how Lizard stole fire.
- ⁴⁷ Sapir and Spier, "Notes on the Culture of the Yana," p. 283.

Chapter Two

The Fur Trade and Early American Settlement



he fur-trade era saw the first significant movement of non-Indians into the interior of California. Although British and American fur traders left no record of trapping in the vicinity of Lassen Peak, their discovery of the mountain passes through the Sierra Nevada, the Siskiyou, and other ranges set the stage for the enormous migration into California in the 1840s and 1850s.

At the beginning of the nineteenth century, Spanish missions extended up the California coast as far north as San Francisco. Spanish interests in California were practically limited to the coastal strip, and Spanish control of California was tenuous. British and American sea captains ignored Spanish restrictions on foreign trade, and in 1812 the Russian American Fur Company established Fort Ross on the coast of northern California over Spanish protests. As Spain was embroiled in a war with Napoleon and could little afford to supply its colonies, the isolated California missions were eager to trade with ships of any nationality.

The Spanish showed little interest in exploring the interior of California until the period 1805-1817, when Lt. Gabriel Moraga led a large number of expeditions into the Central Valley. These expeditions were primarily for the purposes of enforcing control over the mission Indians. They did not result in any Spanish settlement and they did not reach as far north as the region around Lassen Peak, with the exception of an expedition led by Lt. Luis Arguello, who named Feather River and who is also reported to have named Mt. "San Jose," a name later anglicized as Mount St. Joseph and used to describe Lassen Peak through much of the nineteenth century.¹ In 1819, the United States and Spain entered a treaty that established the 42nd parallel as the northern boundary of Spanish dominion from the Rockies to the Pacific. When Mexico gained independence from Spain in 1821, the Lassen region was included within the territory of the Republic of

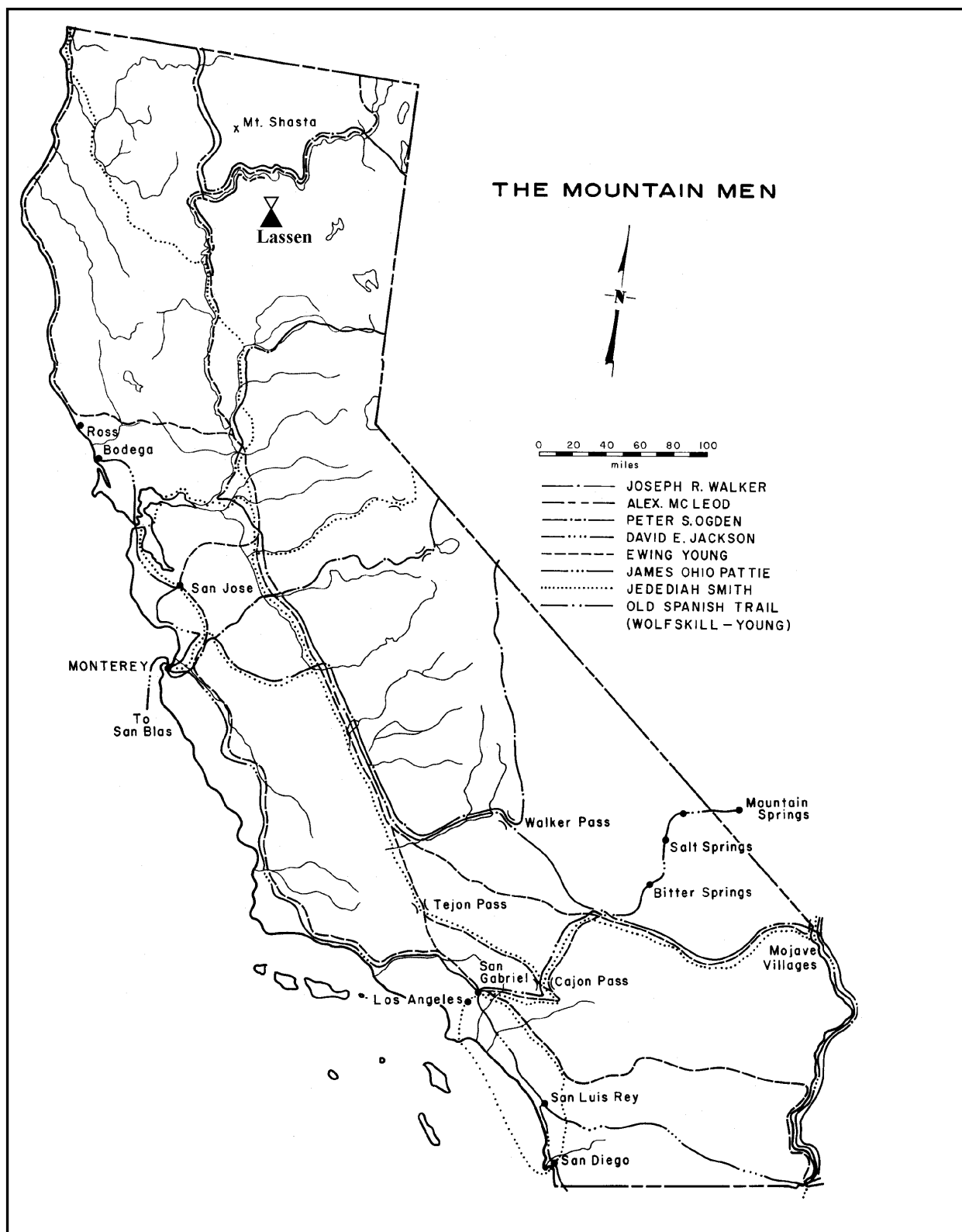
Mexico, but it remained at the very limits of sovereign control.

Peter Skene Ogden

British and American fur traders soon pushed into California. Peter Skene Ogden of the Hudson's Bay Company led a party of more than 40 men and 100 horses into the region east of Mount Shasta in early 1827. On this expedition, Ogden was under instructions to trap beaver throughout the Snake River country and create a "fur desert" that would discourage the advance of American fur trappers west of the Rocky Mountains. He was less interested in discovering new beaver trapping grounds in California than he was in creating a buffer zone against the Americans stretching from the Tetons to the Cascades.² He was aware, however, that he had crossed the 42nd parallel into California, and he reported the existence of a mountain there "equal in height to Mount Hood," which he named Mt. Sastise (Mt. Shasta).³

Jedediah Smith

In 1826, the American fur trader Jedediah Smith, a partner in the Rocky Mountain Fur Company, led a party down the Colorado River and across the Mojave Desert and the San Bernardino Mountains, arriving at San Gabriel Mission in November. The following month, Smith visited San Diego to ask Governor José María Echeandía's permission to travel in California. The governor ordered Smith to leave California by the route he had come, but Smith decided that the governor's authority extended only to the San Bernardino Mountains. Upon crossing these mountains again he turned northward into the San Joaquin Valley, which he found to be rich in beaver.⁴ Following a successful spring hunt, Smith attempted to lead his party up the American River and across the Sierra Nevada, but snow blocked their way. Instead, he left most of the party at a base camp on the



Map showing fur traders' travels in the 1820s and 1830s. (Source: Warren A. Beck and Ynez D. Haase, *Historical Atlas of California*, Norman: University of Oklahoma Press, 1974.)

Stanislaus River and got over the mountains with two men and seven horses – the first recorded crossing of the Sierra. After just ten days rest at his headquarters in Utah, he was on his way back to California with 18 men.⁵

Smith's second California expedition brought him farther north. In the spring of 1828 he struck the Sacramento River, which he called the Buenaventura, thinking that it was the river of Spanish legend that flowed from the Great Salt Lake and breached the Sierra Nevada on its way to the Pacific. His plan initially was to trap along the river where it passed through the mountains, then cut over to the coast and head north to the Columbia. His party of 20 men had only 47 traps remaining between them, however – not enough to produce a large spring hunt. So he settled on another plan: he would exchange what beaver skins the party had already acquired for horses and mules, which they would drive northeast to that year's rendezvous in the Rocky Mountains where they would be sold for considerable profit to the free trappers.⁶

On March 28, 1828, Smith recorded his first view of Mount Shasta from somewhere in the vicinity of present-day Chico. He was now near the head of the Sacramento Valley and increasingly dubious about getting over the snow-covered Sierra Nevada. On April 11, he crossed the river near present-day Red Bluff and angled northwest. The party had much difficulty with the trail and was harassed repeatedly by Indians. When they came out of the mountains it was by way of the Trinity River, which took them through the coast ranges rather than the Sierra Nevada. Their progress slowed to a few miles each day through the dense forest near the coast. Here Smith noted that the Indians had used metal tools to fell trees – evidence that they were approaching their rival Hudson's Bay Company territory.⁷ Smith's party suffered its worst setback after leaving California when it was attacked by Umpquas. Smith lost eleven trappers and his pelts, traps, and horses. Exhausted, the party reached the Hudson's Bay Company's Fort Vancouver on the Columbia River on August 10, 1828. There the American fur trader gladly provided information about California to the

British in exchange for their help in recovering his stolen property from the Umpquas the following year.

Alexander McLeod and the Southern Party

Smith's two California expeditions piqued British interest in the area. The following year, in September 1829, the Hudson's Bay Company sent a fur brigade from the Columbia by way of the Great Salt Lake and Mojave deserts to California under the leadership of Peter Skene Ogden. Following the general route taken by Smith, this party proceeded up the length of California in the first half of 1830. Ogden's brigade was just ahead of an American brigade under Ewing Young that had started from Santa Fe. The two parties traveled together for ten days north of San Francisco Bay. Upon reaching the Pit River, north of Lassen Peak, the British continued northward and the Americans turned back south.⁸

While Ogden was engaged in this nine-month enterprise, the Hudson's Bay Company outfitted another California expedition under Alexander R. McLeod. While Ogden entered California by way of the Mojave Desert, McLeod approached it from the north. He took the Rogue River to its confluence with the Applegate River, then turned east to Upper Klamath Lake, then southward to the Pit River, then down the Pit to the Sacramento Valley. Although McLeod returned from this expedition with a disappointing harvest, Ogden's return with a thousand pelts from the San Joaquin Valley soon afterward revived interest. McLeod's route became the Hudson's Bay Company's standard approach into California.⁹

From 1832 until 1843, the Hudson's Bay Company sent brigades to California on a yearly basis. It referred to these brigades as "the Southern Party." Although the fur returns were not spectacular, the company decided the investment was worthwhile as long as the returns defrayed the cost of outfitting the expeditions. Beginning in 1832, the leader of these yearly expeditions was Michel Laframboise, a native of Quebec. Laframboise established a semi-permanent camp, known as French Camp, near

present-day Stockton. For each expedition, Laframboise received instructions from Chief Factor John McLoughlin to hunt a particular area in California. Most often the hunt occurred along the “Buenoventura” or Sacramento River. In 1837, his instructions were to hunt the Feather River, but owing to a late snowpack he hunted near San Francisco Bay instead. In 1838, he was again instructed to hunt the Feather River as it was thought to be one of the last areas of California that still contained an abundance of beaver. In 1838 and 1839, Laframboise’s instructions included a rendezvous with a Hudson’s Bay Company ship on the California coast. Mexican authorities at first tolerated the British expeditions, but relations between Laframboise and the local authorities grew increasingly strained. In 1841, the company retired Laframboise and put another man, Francis Ermantinger, in command of the Southern Party. Ermantinger’s brigade, the last to be outfitted for California, numbered more than 100 people including many free trappers and their wives and children. Some of these trappers were veterans of the California fur trade and had accompanied Smith in 1827. While Ermantinger’s brigade was engaged in trapping the tributary streams up and down the Sacramento Valley, Sir George Simpson, Governor of the Hudson’s Bay Company, was visiting the Mexican settlements along the coast, negotiating terms for his extractive industry and assessing the company’s future interest in the area.¹⁰ As the returns in 1842 were poor, the Hudson’s Bay Company finally abandoned the California trapping grounds in 1843.¹¹

As the fur trade came to a close in California, a few trappers remained behind to become settlers. This was a common pattern wherever the fur trade occurred in North America, but in California the former trappers remained behind as guests of the Mexican government. These early settlers inured Mexican authorities to a foreign presence and encouraged others – mostly Americans – to emigrate to California and establish farms.

One such individual, John Sutter, enlisted in a trapping expedition and arrived in Monterey, California in 1839. Sutter’s business interests soon swung from beaver pelts to cattle, and by

1841 he had a large establishment in the Sacramento Valley on the American River. It was at Sutter’s mill, on a cold day in January 1848, that James Marshall noticed some gold flakes in the bottom of the millrace, making the discovery that would trigger one of the great migrations in U.S. history.

Peter Lassen and Early American Settlement

The timing of John Marshall’s gold discovery at Sutter’s Mill could not have been more fortuitous from the standpoint of the United States. The ink had barely dried on the Treaty of Guadalupe Hidalgo of February 2, 1848, ending the Mexican-American War, when news of the discovery got out. Within months, San Francisco was deserted as men rushed to the American River; by September, the gold rush fever had reached the East Coast; and in December, President James K. Polk confirmed the reports in his message to Congress. A sleepy northern province of Mexico before the war, California now attracted gold seekers from all over the world. In 1850, Congress granted California statehood.

While the gold rush profoundly affected the emigration to California, early American settlement in California prior to the Mexican-American War set the stage for it. American settlers began to enter California in defiance of Mexican officials some years before the war, and they supported U.S. military operations in California in 1846. When the stream of emigrants increased after 1848, some of these settlers actively recruited emigrant parties and guided them to those areas of California where they owned land. The most prominent settler in northern California, a man who typified these early settlement patterns and whose name would eventually attach to Lassen Peak, was Peter Lassen.

Born in Farum, Denmark, on October 31, 1800, Lassen apprenticed to become a blacksmith under his uncle’s direction and tried unsuccessfully to establish his own blacksmith business in Copenhagen. In 1830, he emigrated to the United States, settling first in Boston, then St.

Louis, and then Keytesville, Missouri, where he worked as both a farmer and a blacksmith. In 1839, Lassen joined a party bound for Oregon.¹²

Lassen made his overland journey in the company of 29 people, including two missionaries and their wives, other settlers, and 17 employees of the American Fur Company. They stopped at the gathering of mountain men and Indians at the Green River rendezvous for a few days in early July, and then proceeded to Fort Hall where some of the party tried without success to hire a guide to lead them to California. They continued onward to The Dalles, where some of the party remained, and the others including Lassen ended their overland journey at the small settlement of Oregon City on the Willamette Valley. The following May, Lassen boarded a vessel, the *Lausanne*, with three of his companions and sailed to California.¹³

Like other American citizens entering California at this time, Lassen and his companions had to bull their way through the weak defenses of Mexican officialdom. Refused permission to land, the Americans wrote for assistance to the American consul in Monterey, explaining that they were short of funds and could proceed no further on the *Lausanne*. They closed their letter with the remark, "Should we receive no relief, we will take up our arms and travel, consider ourselves in an enemy's country and defend ourselves with our guns." Apparently, they persuaded Mexican officials to allow them entry, and Lassen spent the winter of 1840-41 in the settlement of San Jose.¹⁴

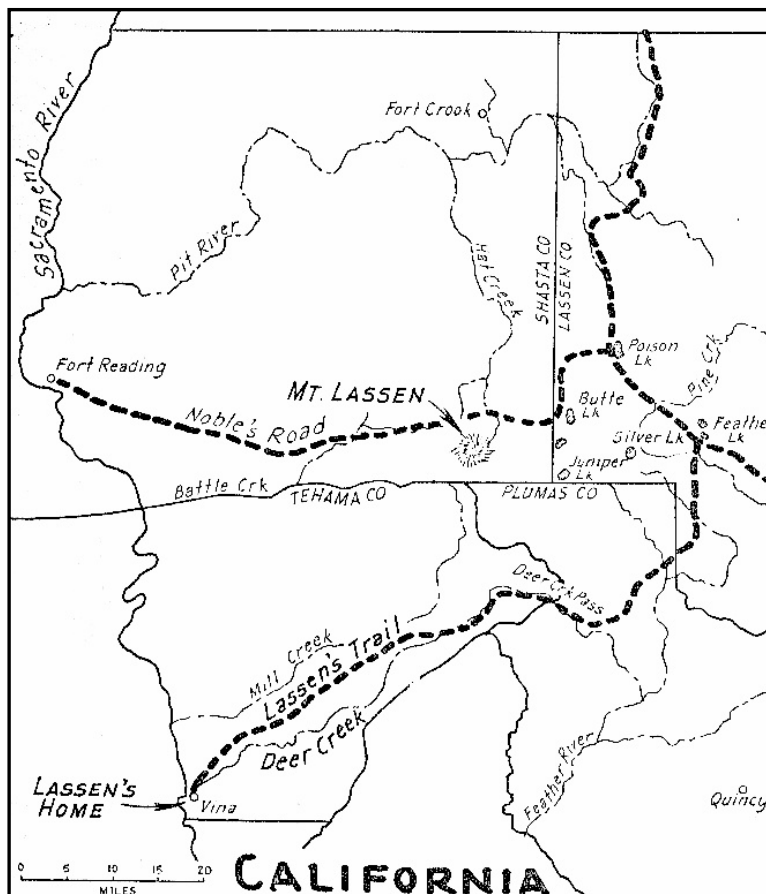
Details of Lassen's sojourn in San Jose are sketchy. It seems he built a sawmill and perhaps acquired some land. In 1842, Lassen acquired one hundred mules – either for wages at the sawmill or for the sale of his properties. In the fall he drove the mules to Sutter's Fort, where he grazed his stock and plied his trade as a blacksmith for John Sutter and others. A traveler described Lassen at this time as "a Danish blacksmith who led a nomadic life moving his blacksmith shop and small stock of cattle horses and mules about the rich prairys [sic] himself always at work repairing arms for the hunters and agricultural implements for the farmers and he is a most extraordinary and



Peter Lassen. (Source: Ruby Johnson Swartlow, *Peter Lassen: Northern California's Trail-Blazer* (San Francisco: California Historical Society, 1940.)

industrious man hospitable and kind to every body also to the Indians who dot [sic] on him." Lassen received his wages in livestock, increasing his herd.¹⁵

While working for Sutter during the summer of 1843, Lassen was involved in an incident that introduced him to the country south of Lassen Peak. A party of emigrants stayed a few days at Sutter's Fort and stole some of Sutter's stock when they left for Oregon. Lassen and a small party pursued these thieves, caught up to them near the present-day city of Red Bluff, and recovered the stolen stock. Lassen was impressed by the fertile side valleys he saw on this journey and decided he would like to establish his own ranch in the area. He applied to the governor, General Micheltorena, for a land grant, and obtained a 22,000-acre tract at the confluence of Deer Creek and the Sacramento River in today's Tehama County, on land traditionally inhabited by Wintun and adjacent to land of the Maidu and Yana-Yahi (see Chapter One). The grant was furnished to him



Map showing location of Lassen's ranch and Lassen and Noble Trails.
(Source: Leo Rosenhouse, "Peter Lassen's Lost Gold," *True Treasure*, January-February 1972: 38.)

with the Mexican seal and the governor's signature on December 26, 1844. Less than a year later, Mexico and the United States were at war. Lassen's Mexican land grant was later recognized by the United States government.¹⁶

Lassen named his ranch *Bosquejo* (wooded place). He probably occupied the place in the summer of 1844 prior to receiving title. He had some 200 to 300 head of cattle, and with the help of Indian laborers he built an adobe house, blacksmith shop, and outbuildings for his livestock. The California pioneer artist, J. Goldsborough Bruff, made a drawing of Lassen's ranch in 1850, depicting a main house and two neat outbuildings.¹⁷ A biographer of Lassen speculated, "he undoubtedly had quite a self-sufficient little ranch, and soon stocked such staples as whiskey and flour and built up a small business. In view of his early training in farming,

it is safe to conclude that, with a fertile soil, he soon raised vegetables for his own needs and probably supplied some to his Indian friends and, in later years, to immigrants newly arrived from over the mountains to the northeast."¹⁸

Another historical account relates that Lassen variously made a living by trapping beaver and otter, growing cotton, producing the first wine in the region, and furnishing a store with food, tools, and "other necessities" for travelers.¹⁹ Lassen was clearly an entrepreneur. In the summer of 1845, he and two partners, Ezekiel Merritt and W. C. Moon, quarried and manufactured a number of grindstones on Stony Creek. They transported these stones twenty miles by mule to the Sacramento River, and then by canoe, selling them to millwrights down the valley.²⁰

Peter Lassen and the Bear Flag Revolt, 1846

Although Lassen had become a Mexican citizen in order to obtain his land grant, he joined with other American settlers in support of the

Bear Flag Revolt in 1846. John C. Frémont arrived in California in December 1845 at the head of an armed force of 60 men, setting the stage for the revolt. This was Frémont's second expedition to California in three years, and Mexican officials rightly perceived its aggressive intent. Appearing in Monterey in February 1846, ostensibly to procure supplies, Frémont's presence infuriated Colonel Jose Castro, who ordered him to leave California. Frémont initially refused, defiantly raising the American flag in his camp on Hawk's Peak in the Gabilán Mountains outside of Monterey. But to avoid bloodshed, he agreed to depart and marched his force north to the Sacramento Valley.²¹

It was at this point that Peter Lassen became involved in the brewing revolt, for he hosted Frémont and his men at his Rancho Bosquejo for



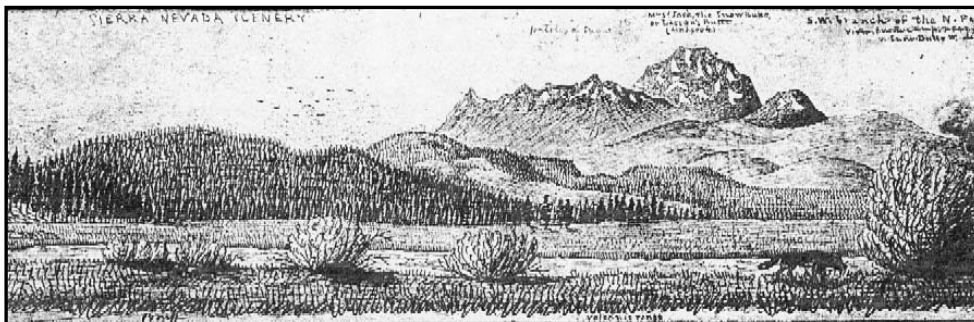
Lassen's home, Bosquejo Rancho, as drawn by J. Goldsborough Bruff. (Source: J. Goldsborough Bruff Collection, San Marino, California: Huntington Library.)

most of the month of April 1846. The latter described Lassen as “a man of practical sense and courage.” Frémont wanted to take his time in leaving California to await developments elsewhere, but in late April he moved on. Six days after his departure, an American agent arrived at Lassen's ranch with a packet of letters for Frémont from the eminent American expansionist, Senator Thomas Hart Benton of Missouri. The agent, Lieutenant Archibald E. Gillespie of the U.S. Marine Corps, had slipped into California disguised as a merchant. He was accompanied by a black servant. Upon hearing Gillespie's mission, Lassen and three other settlers joined Gillespie in riding after Frémont's party. They overtook Frémont at Klamath Lake on the Oregon border. Although the precise instructions contained in the letters from Senator Benton were never disclosed,

Frémont took them to mean that his small military force was to turn about and defend American interests in California.²²

Frémont's return to the lower Sacramento Valley had its intended effect on American settlers in the area. Alarmed by reports that Colonel Castro was raising a militia and would shortly order the expulsion of all Americans from California, they were now prepared to take matters into their own hands. On June 10, Ezekiel Merritt (the same individual who had worked with Lassen in the millstone business the previous summer) led others in a raid on Colonel Castro's horse herd. This event would later be credited as the start of the Bear Flag Revolt. On June 14, a somewhat larger force of 30 armed settlers attacked the village of Sonoma where they took Colonel

Mariano Guadalupe Vallejo prisoner and declared themselves a republic. In the ensuing weeks, Colonel Castro withdrew his forces south of San Francisco Bay and Frémont, merging his soldiers with the armed settlers,



Lassen Peak, as drawn by J. Goldsborough Bruff. (Source: J. Goldsborough Bruff Collection, San Marino, California: Huntington Library.)



Peter Lassen and companions in 1850, as pictured by J. Goldsborough Bruff. (Source: J. Goldsborough Bruff Collection, San Marino, California: Huntington Library,.)

triumphantly entered the long-abandoned San Francisco presidio and spiked its ten old Spanish guns.²³

Two additional U.S. military forces completed the American conquest of California. The first was the Navy's Pacific squadron, under Commodore John D. Sloat, who fell ill soon after anchoring at Monterey in July 1846 and turned over his command to Commodore Robert F. Stockton. The second was a force of dragoons under General Stephen W. Kearny, which arrived in southern California in December after an exceedingly difficult march from Santa Fe. By January, Stockton and Kearny had captured Los Angeles and all Mexican officers had either fled or surrendered. As soon as the conquest was

complete, the three American officers quarreled over who was in supreme command, with Frémont claiming the role of military governor in defiance of his superior officer, General Kearny. Frémont was ordered to appear for court martial in Washington. Stockton departed on an overland march in the summer of 1847. Little is known about Lassen's political leanings at this point beyond the fact that he formed the ambition to establish a settlement near his ranch on Deer Creek, and gave this place the name Benton City in honor of Frémont's champion, Senator Benton of Missouri. Lassen joined Stockton's expedition in order to return east and recruit emigrants for his town. It has been suggested that he intended to attend Frémont's trial, but evidence of this is lacking.²⁴

Peter Lassen and the Gold Rush

On his return to California in 1848, at the head of an emigrant train of twelve wagons, that Lassen pioneered the route known as the Lassen Trail (see Chapter Three). Lassen had obtained a charter for the first Masonic Lodge in California, and the lodge formally opened in October 1849. By then, however, the small population of Benton City had already been drained by the rush to the gold diggings on the American River. The charter was transferred to Shasta City in 1851.²⁵

Meanwhile, Lassen suffered other setbacks in his plans to colonize the area around his ranch on Deer Creek. Probably his most serious setback came in 1850 with the loss of his *Rancho Bosquejo*. Lassen sold a half interest in the property to a man named Palmer and then left it in his partner's hands while he took several teams of oxen to Sacramento to sell. After selling the oxen, he decided to invest the proceeds in a steamboat, the *Lady Washington*, for commerce on the upper Sacramento River. The steamboat proved to be a disastrous investment as the river was barely navigable and the valley was too sparsely settled to provide enough business. After a five-month trip upriver, Lassen's steamboat finally reached the mouth of Deer Creek. It was probably the only

steamboat ever to make this journey.²⁶ While his steamboat business foundered, Lassen's partner lost most of Lassen's cattle herd. By the end of the year he had acquired debts that forced him to sell the rest of his ranch to Henry Gerke of San Francisco. Lassen then fell in with another partner, a Russian by the name of Isadore Meyerwitz, with whom he settled in Indian Valley. He lived with Meyerwitz on a ranch in the Indian Valley, raising vegetables, until 1855. After a prospecting trip that summer, Lassen built a log house on Lassen Creek, near Susanville, and spent the remaining years of his life in this vicinity.

California lay at the farthest margin of the North American fur trade, and the British and American expeditions into the interior of California were limited in number. No fur-trade expedition left a record of entering present-day Lassen Volcanic National Park. Yet the fur trade era set the stage for enormous changes to follow. By the close of the fur trade in California, non-Indian settlement extended far up the Sacramento Valley toward the Lassen region, and the whole territory had passed from Spain to Mexico to the United States.

Chapter Two Notes

¹ Walton Bean, *California: An Interpretive History*, second ed. (New York: McGraw-Hill Book Company, 1973), p. 56; William K. Medlin, *Fire Mountain: A Nation's Heritage in Jeopardy* (Santa Fe: Sunstone Press, 1996), p. 35.

² T. C. Elliott, *Peter Skene Ogden: Fur Trader* (Portland: Oregon Historical Quarterly, 1910), pp. 21-22.

³ Douglas Hillman Strong, *Footprints in Time: A History of Lassen Volcanic National Park* (Lassen Loomis Museum Association, n.p., 1973), p. 7.

⁴ Bean, *California: An Interpretive History*, pp. 77-78.

⁵ Bean, *California: An Interpretive History*, p. 78.

⁶ Dale L. Morgan, *Jedediah Smith and the Opening of the West* (Lincoln: University of Nebraska Press, 1953), pp. 256-257.

⁷ Morgan, *Jedediah Smith and the Opening of the West*, p. 262.

⁸ LeRoy R. Hafen, *The Mountain Men and the Fur Trade of the Far West*, Vol. 5 (Glendale, California: Arthur H. Clark Company, 1966), p. 228.

⁹ Hafen, *The Mountain Men and the Fur Trade of the Far West*, Vol. 5, p. 152.

¹⁰ Lois Halliday McDonald, *Fur Trade Letters of Francis Ermantinger, 1818-1853* (Glendale, California: Arthur H. Clark Company, 1980), pp. 241-245.

¹¹ Hafen, *The Mountain Men and the Fur Trade of the Far West*, Vol. 5, pp. 152-168.

¹² Ruby Johnson Swartzlow, *Peter Lassen: Northern California's Trail-Blazer* (San Francisco: California Historical Society, 1940), pp. 1-2.

¹³ Swartzlow, *Peter Lassen*, pp. 2-3.

¹⁴ Swartzlow, *Peter Lassen*, p. 5.

¹⁵ Swartzlow, *Peter Lassen*, p. 6.

¹⁶ Lawrence Nelson, "Peter Lassen: The Cecil Rhodes of Northern California," translated by Peter Guldbrandsen, typescript dated January 23, 1947, Bancroft Library, University of California, Berkeley, pp. 4-5.

¹⁷ "Peter Lassen," *Hutchings' Illustrated California Magazine*, Vol. 3 (July 1858 to June 1859), p. 352; Andy Hammond, "Peter Lassen and His Trail," *Overland Journal*, Vol. 4, No. 1 (Winter 1986), p. 40.

¹⁸ Swartzlow, *Peter Lassen*, p. 7.

¹⁹ Franklin D. Scott, "Peter Lassen: Danish Pioneer of California, 1800-1859," in *Makers of an American Immigrant Legacy: Essays in honor of Kenneth O. Bjork* (Northfield: Norwegian-American Historical Association, 1980), p. 191.

²⁰ Swartzlow, *Peter Lassen*, p. 7.

²¹ Bean, *California: An Interpretive History*, pp. 95-97.

²² Scott, "Peter Lassen: Danish Pioneer of California," p. 192.

²³ Bean, *California: An Interpretive History*, pp. 99-100.

²⁴ Bean, *California: An Interpretive History*, pp. 100-106; Scott, "Peter Lassen: Danish Pioneer of California," p. 192. Scott cites the editors of the memoirs of J. Goldsborough Bruff on Lassen's plan to attend the court martial and notes that "there seems to be no evidence that he appeared in Washington."

²⁵ Scott, "Peter Lassen: Danish Pioneer of California," p. 195.

²⁶ Nelson, "Peter Lassen: The Cecil Rhodes of Northern California," p. 12.

Chapter Three Emigrant Trails



eginning 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.”¹ 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.²

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.”³ The push factor in goading this “free, enlightened, [but] redundant people” to move west was considerable.⁴

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.⁵

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.”⁶ In 1830, fur trapper William L. Sublette successfully breached the Continental Divide with wagons at South 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.”⁷

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.”⁸

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.⁹

California boosters also described a gentle and healthy climate, potential agricultural wealth, an enormous variety of resources, and abundant game.¹⁰ 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.¹¹

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.¹² 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.”¹³ 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 1827.¹⁴

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.¹⁵

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.¹⁶

Alternative trails varied the route between the Upper Humboldt and California. These alternative trails included Lassen’s Trail and the Nobles Trail. Lassen’s Trail ran just east and south of the present boundaries of Lassen Volcanic National Park, while the Nobles Trail cut across the northern section of the park. Named for Peter

Lassen and William H. Nobles respectively, both trails were established by early settlers of northern California who sought to divert the growing stream of immigrants into their own region.

The Lassen Trail

In *The California Trail*, late historian George R. Stewart suggested that Lassen journeyed only part way east in the fall of 1847, perhaps as far as Fort Hall, where he sold his dubious abilities as a guide to the first emigrant train that wanted to go to California.¹⁷ Lassen's biographers, however, generally agree that he spent the winter of 1847-48 in Missouri recruiting a party of emigrants to follow him back to the place he would call Benton City. Since he returned to California with a charter from the supreme Masonic lodge in Missouri, this latter interpretation seems more likely. In any case, Lassen's party suffered great hardship and the route he pioneered soon acquired a bad reputation.

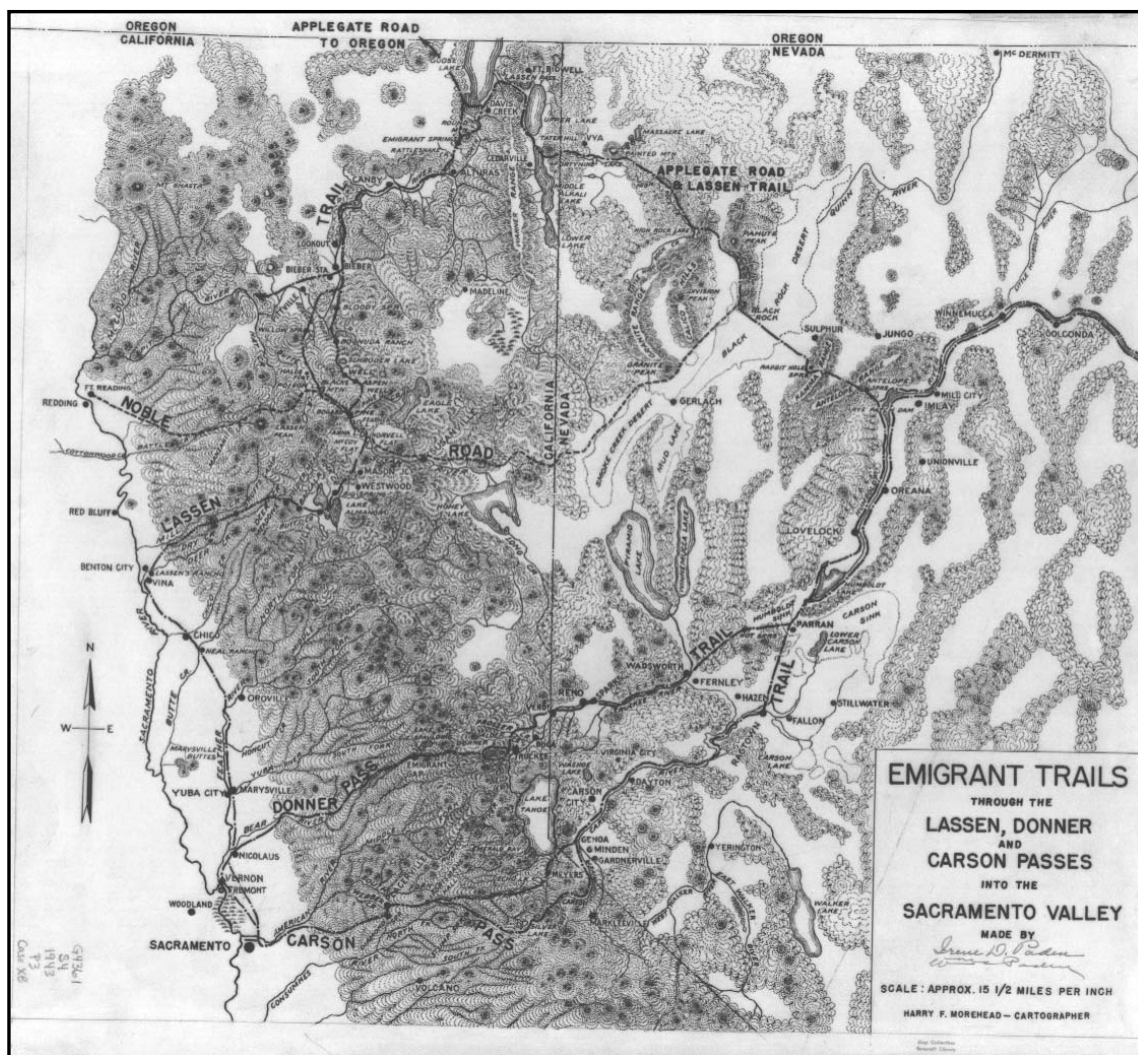
The Lassen Trail branched off the Applegate Trail, which in turn branched off the main California Trail. The Oregon Trail and the California Trail forked on the Snake River plain in what is now southern Idaho, with the latter following the Humboldt River across present-day northern Nevada. The Applegate Trail, pioneered in 1846, veered off the California Trail at a place on the Humboldt River that would soon become known as Lassen's Meadow. From this point it led in a northwesterly direction across the Black Rock Desert, over the Warner Mountains in the northeast corner of California, then on a northwestward trending course to a low crossing of the Cascades just north of the 42nd parallel. Here it turned north, eventually reaching the Willamette Valley. The Applegate Trail was an alternative route to Oregon and its chief advantages lay in its more southerly crossing of the Cascades and its avoidance of the difficult Columbia Gorge.¹⁸

A year before Lassen blazed the trail that would bear his name, another party of 17 wagons led by William Wiggins attempted the same thing. It is not known how far the Wiggins party went before turning around in despair to retrace its route

back to the Applegate Trail, where it fell in with other emigrants bound for Oregon. Throughout the winter of 1847-48, people in California believed the Wiggins party was lost in the mountains or massacred by Indians. Finally, in April 1848, Wiggins arrived by ship in San Francisco and people learned that the party had gotten safely to Oregon.¹⁹

It was around September 1, 1848, that Lassen's emigrant party stepped off the California Trail onto the Applegate Trail, with the aim of pioneering a new route to California. At this point in time the California Trail had two main forks: the Truckee Route north of Lake Tahoe, and the Carson Route south of it. Both crossed the Sierra Nevada by different passes. Lassen thought he could establish an alternative route that did not involve a high mountain pass. It soon became evident, however, that he did not know the country as intimately as he claimed. At Black Rock, Lassen's ranch lay due west across country that was not too difficult to traverse. But Lassen thought he needed to follow the Applegate Trail as far as Goose Lake and the Pit River, making a horseshoe bend to the north around the mountains.²⁰

After a couple of arduous weeks on the Applegate Trail, the party reached the Pit River, which Lassen proposed to follow southward to the Sacramento. Though the plan must have held appeal to the tired travelers – offering the distinct advantage of no mountain passes – the trail was unblazed and untested and the travelers lacked adequate food supplies. Worse, it was already mid-September and winter and the heavy snows of the Sierra Nevada threatened. As soon as the way became difficult, the emigrants' faith in their guide evaporated. Within four days of leaving the Applegate Trail they were in trouble. First the Pit River canyon became narrow and winding. Then, leaving the Pit River, they ran into a dead-end and had to backtrack eight miles. Next they encountered forest that was so thick it became necessary to halt and cut their wagons down to carts so that they could be maneuvered through the trees. By late October they were growing desperate and even threatened to hang their guide. According to tradition, Lassen betrayed his



Irene Padue, "Emigrant Trails." (Source: University of California Berkeley, Bancroft Library Pictorial Collection. Permission for use secured.)

confusion by using Mount Shasta as a geographic reference point one day and Lassen Peak the next – without recognizing they were different mountains.²¹ Beyond the confusion, either peak in such close proximity would have proved a discouraging sight to these travelers, who would have learned by now that volcanoes are apt to be surrounded by lava beds too rough to take a wagon across. "Looking out from any open space, they could see the overwhelming mass of the great peak, blocking all possibility of progress in that direction," Stewart wrote. "So they moved laboriously around the mountain, keeping it about twenty-five miles distant, in a kind of crude circular course."²²

While Lassen's party was on the verge of disaster, a large party of Oregonians under the leadership of Peter Burnett was moving south by wagon train to join the gold rush excitement. This party turned off the Applegate Trail just a few miles west of where Lassen's party had left it, and after a few days journey was surprised to intersect the fresh wagon tracks. Assuming that the party ahead of them knew where it was going, the Burnett party followed Lassen's lead into the dead-end canyon. The Burnett party then found a note stuck on a blazed tree describing the Lassen party as "lost in the mountains and half-starved." This note had been left by packers who had encountered Lassen a short time before. Fortunately for Lassen and his followers, the

Burnett party was well-provisioned and in good shape when it caught up to them. The Burnett party gave them food and pushed ahead, breaking trail the remaining distance to Lassen's ranch. Lassen repaid the Oregonians by giving them food and a place to rest at his ranch before they went on to the gold fields.²³

Despite the hardships of the trail, Lassen lost no time in promoting it. Even in the face of the gold rush, he clung to his dream of founding a large town at the site of his Rancho Bosquejo. Stewart, who described Lassen as something of a humbug, explains how the Lassen Trail came to attract more victims in 1849:

On October 31 a meeting was held – or, at least, Lassen issued the report of a meeting reputed to have been held. There is about this whole report a stench of what might be called false advertising. To begin with, it was dated at “Bentonville.” But there was no such town, and this was merely the name which Lassen had given to the city which he was projecting at the site of his lonely ranch. Moreover, the report of this meeting, supposed to have been held by the emigrants, praised Lassen as a guide and advocated the use of his route. Obviously, they would have been unlikely to agree to either of these propositions. Possibly a few of them, well-liquored, held a “meeting,” and subscribed to the resolutions. However that may be, the highly misleading document was sent east, was printed in newspapers, and exercised a dangerous influence.²⁴

As the overland migration to California increased in 1849, Lassen's route actually saw more use than any other during that one year. Some 21,000 people journeyed to California by one of three overland routes in 1849. Among these '49ers, an estimated 7,000 to 9,000 took the Lassen Trail.²⁵ Enthusiasm for the Lassen Trail did not last. Although the trail avoided any high mountain pass, the distance across mountain country was much greater. Moreover, there were arid stretches with little or no grazing available. Worst of all, perhaps, was the extra distance associated with the horseshoe bend to the north. The '49ers who suffered over the Lassen Trail gave it various disparaging names such as “the Death Route” and “Lassen's Horn Route” – the latter referring to the long sea route to California

via Cape Horn. Other cutoffs were soon established to the south. Consequently, the Lassen Trail had “one big year” and then fell into disuse.²⁶

The Nobles Trail

The trail that competed most directly with the Lassen Trail was called the Nobles Trail after 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.²⁷ 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.²⁸

There is some doubt as to who discovered the cutoff. In *The California Trail*, Stewart credited Nobles with locating the route, stating that Nobles “accomplished the task at which Wiggins, Lassen, and McGee had failed – the establishment of a short cut from the big bend of the Humboldt into

California.”²⁹ An anonymous contributor to *Hutchings' California Magazine* in 1857 insisted that Lassen, not Nobles, discovered the route:

Peter Lassen however it is claimed by the old settlers in Indian Valley, is entitled to that honor, having known it long before Mr. Noble ever saw it, and moreover was his guide all through this route, Mr. N. being entirely unacquainted with it. This Mr. Lassen himself solemnly affirmed in our hearing, and to us; and we make mention of it now that honor may be given where honor is most due.³⁰

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 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.³¹

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.³² 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.³³

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.”³⁴ 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.³⁵ 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 route across the Sierra Nevada to San Francisco.³⁶ 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, an honor not also accorded Lassen's route. 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."³⁷

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."³⁸ 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.³⁹

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.⁴⁰ When in the 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.

These journeys mirrored those of the emigrants not only in route traveled but also in



Susanville, 1870. (Source: Negative #305, Historic Photograph Collection, LAVO.)

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.⁴¹

Major Kimball's 1865 journey with 3,700 head of sheep from Grayson's Ranch south of Red Bluff to Idaho Territory, by way of "the old Hat Creek Route" – much of which followed Nobles Trail within view of Lassen Peak – proved typical. In addition to the sheep, Kimball was accompanied by John W. Burgess, George Hoag, "Indians Dick and Buck," sheep dogs Jim and Flora, four saddle horses, and a team of horses that pulled the supply wagon. From the first camp at Grayson's on June 6, to the last at Boise City on August 15, Kimball kept a journal of their effort. Days ranged in length from ~5 to ~10 miles, and some of these days proved distinctly less pleasant than others (of the six miles from Jelly's Ferry on

the Sacramento River to Old Man Love's on Battle Creek, Kimball wrote "6 miles they call it – I call it 100. Road very bad rocky. Country looks as if it had all been burned over").⁴² For days Kimball described parched land, dusty roads, and poor grass: "this is a God for saken (sic) but raised the best crop of rocks of any place I ever saw . . . We are now most through the foot hills which I always dread – give me mountains." Finally, at Ash Creek – seven days east of Red Bluff – Kimball described "the first green grass." By June 16, the men were in Lost Camp and within view of "Lawson's Peak" [sic], "all covered with snow." Kimball found the scenery delightful, the pine

forests "fine," and the grass (small bunch grass on sandy soil) and water "splendid." If only, he wrote, "they had it in Maine." East of Lassen Peak, however, his adulation again turned to chagrin: "passed over the Devil's half acre today and it is well named - . . . about 4 miles of Burnt Rocks as thick as they can lay on top of each other. His seed must have taken good root."⁴³

As the topography intensified, so too did Kimball's fear of Indians, whose signal fires dotted the night. Beginning at Hat Creek, the party posted a night guard and all slept with their boots on and their rifles ready (See Chapter Four). Moreover, grass and sweet water proved increasingly scarce, alkaline water increasingly common, sheep were dying at a rate of 20 per day, and as he proceeded to Nevada Kimball braced for "squally times" ahead.⁴⁴ His fears proved unfounded, however, and Kimball and his men arrived in Boise on August 15, 1865 three months after leaving the Sacramento Valley.

Though Kimball – and most others – passed safely through the Lassen region, the immigration of men and stock to California during the gold rush era permanently altered the state's natural and cultural environment. These impacts are the subject of the next chapter.

Chapter Three Notes

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- ³⁵ Jackson, *Wagon Roads West*, pp. 175-176.
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- ³⁸ As the gold rush slowed and settlement increased, wool replaced mutton as the most valuable sheep commodity.
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- ⁴¹ 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.
- ⁴² Other sources confirm these standard distances. For example, an anonymous sheepman reported in the *Red Bluff Daily News* that sheep covered an average of seven miles a day in country with adequate feed. At high elevations where feed proved scarce the herders might push the animals at a rate of 15 miles per day. "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, Western Archeological and Conservation Center (WACC).
- ⁴³ Kimball Journal, June 6, 1865 – July 3, 1865. Vertical File: Tehama County Sheep Drives, Lassen County Historical Society, Susanville, California.
- ⁴⁴ Kimball Journal, June 13, 1865 – July 3, 1865.

Chapter Four

Indian Response



he dramatic immigration of whites to California during the gold rush era had disastrous consequences for California Indians. Few places in North America saw such rapid destruction of Indian peoples and their cultures as occurred in California in the 1850s; whole peoples, languages, and cultures were destroyed, anthropologists report, in the first wave of the gold rush and in the settlement that followed.¹ Historical interpretations of these events initially focused on the failings of federal Indian policy. California Indians, it was argued, were victimized by the new state's remoteness from federal protection and the fumbling start of Indian reservations there. More recently, anthropologists and historians have examined Indian-white relations at the local level, drawing upon contemporary accounts in newspapers, journals, and private papers, to determine the causal factors behind the exceptional brutality of race relations and the precipitous decline of the Indian population on the California frontier. These studies reveal underlying factors that simply overwhelmed federal efforts to ameliorate the effects of the gold rush on native inhabitants.

Although these scholars have uncovered broad regional patterns within the state, the details of what occurred in the region of Lassen Peak remain sketchy because few people recorded them. In general, it may be said that Indian groups that frequented the region of what is now Lassen Volcanic National Park responded in similar ways to Indian groups in other parts of northern California – by withdrawing from areas claimed by whites, by adapting to new conditions that made their very survival problematic, and by initiating raids on emigrant trains and isolated settlements. The challenges to Indian survival may be discussed as four separate, though interrelated, factors: environmental degradation, cultural dislocation, the prevalence of disease, and warfare.

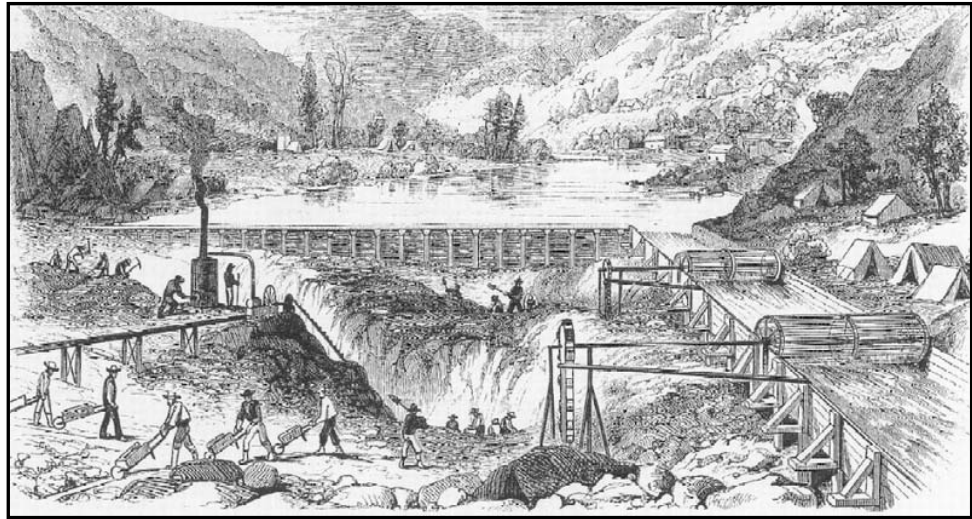
Environmental Degradation

California Indians relied on a variety of natural resources for their subsistence (see Chapter One). Degradation of the environment in the gold rush era profoundly interfered with the Indians' resource base. In particular, Indians had trouble with harvesting salmon, but they also competed with whites for access to berry and seed-producing grounds and for reduced supplies of game. These changed circumstances brought many Indians to the point of starvation. While starvation was not by itself a major cause of mortality, it was an underlying factor in cultural dislocation and probably contributed significantly to a decline in birthrate. It also made Indians more susceptible to disease.²

California's natural environment was already modified by more than a century of Spanish and Mexican occupation when the gold rush ensued. Nevertheless, California's rapid population growth during the 1850s had profound environmental consequences. The white population's pursuit of game, pasturage, gold, and lumber, and the draining of wetlands for agriculture, all produced changes in the environment. Some environmental changes were localized while others, such as the disappearance of certain animal species, affected wide areas including the wilderness around Lassen Peak. All of these changes had a cumulative effect on Indian peoples.

California's wetlands were widely affected. In mountain areas, beaver had an important role in the ecology because they built dams, impounded streams, and created wetland environments. The beaver population was already sharply reduced before the advent of the gold rush. In 1833, the Hudson's Bay Company trader John Work commented that the country was already "so exhausted that little [could] be done."³ The beaver's virtual disappearance from the mountains meant a loss of riparian habitat in those areas.

While the destruction of beaver undoubtedly wrought changes on watersheds in the 1840s, mining activity superseded those effects in the 1850s. Miners dammed creeks and diverted the water into ditches for the purpose of washing gold from the creek bed. The silt from this operation washed downstream, clogging channels. With the



Mining placer gold from the dry bed of a river after it has been diverted.

(Source: *Harper's Magazine*, vol. 20, 1860.)

advent of hydraulic mining in the 1860s – a technological process whereby powerful jets of water were used to blast whole hillsides into sluices – the clogging of streams and rivers by silt increased markedly. During the winter of 1861-62, the load of silt or “slickens” caused major flooding in the lower Sacramento Valley.⁴

Nowhere was environmental change more conspicuous than in the Sacramento and San Joaquin valleys, south and west of Lassen Peak. This lowland country was a maze of sloughs and wetlands during the gold-rush era. A tall marsh sedge, called “tule” by the Spanish, dominated this landscape. A traveler who observed the country from a steamboat on the Lower Sacramento River in the 1850s described an “apparently interminable sea of tules extend[ing] nearly 150 miles south, up the valley of the San Joaquin.”⁵ As California’s population swelled in the 1850s, settlers began draining these wetlands and converting them to farm land. Agricultural and mining interests collided as the effects of silting became widespread, and eventually hydraulic mining was prohibited in order to protect agricultural crops downstream.

The livestock industry also modified California’s grasslands. Beginning in the Spanish and Mexican periods, open-range livestock grazing began to produce a change from native to Mediterranean grasses. Domestic cattle and

horses competed with elk, antelope, and other native grazing animals. Moreover, the Spanish introduced exotic species of grasses and forbs which thrived in California’s climate. Seeding and germinating annually, they were able to sustain both drought and heavy grazing pressure better than the perennial native species of bunchgrasses. The exotic species of grasses were probably well established in southern California by the 1840s. As cattle and sheep grazing spread to northern California in the 1850s, similar changes in grassland vegetation occurred there.⁶

The gold rush began a period of wildlife decline in California. In Spanish and Mexican California, elk and pronghorn antelope were abundant, particularly in the tule marshes of the Sacramento and San Joaquin valleys. The jaguar may have ranged as far north as California, and grizzlies were present in large numbers – probably helped by the introduction of cattle, which provided an additional food source. Wolves and mountain lions were plentiful. In the early 1850s, Jesse Healy recalled seeing “hundreds of wolves in a drove” from his house on the North Fork of the Feather River.⁷

The mining camps provided a market for wild meat, and market hunting quickly reduced the herds of elk, deer, and pronghorn antelope that roamed the Sacramento and San Joaquin valleys. However, increased hunting pressure in the 1850s

The extinction of California grizzlies

Grizzlies were the first animal to suffer the effects of California's population expansion because they were dangerous and considered a nuisance by most miners. "The grizzly is as great a terror in California as the tiger is in Hindustan," wrote one miner.¹ The bears were shot mercilessly and disappeared relatively quickly from the valleys. How long they persisted in the area around Lassen Peak is not known. A logger from Millville named Elias G. Weigart claimed to have shot the last grizzly in Shasta County above Inwood, in the foothills of Lassen Peak, in 1895.² The last reported grizzly sighting in California occurred in Sequoia National Park in 1925.³

Sources:

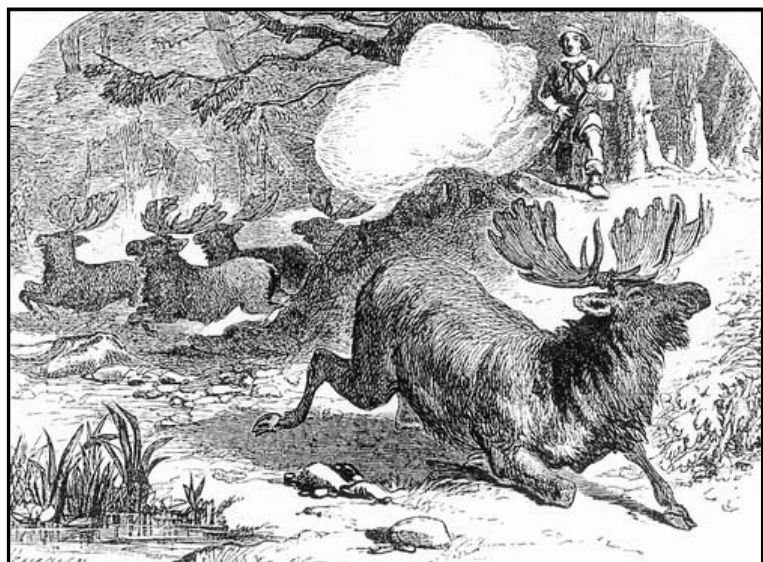
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was only the first cause of decline among California's large grazing animals. The spread of agriculture, the draining of tule marshes, and the destruction of habitat – a process that expanded after the gold rush era – ultimately drove California's ungulates out of their preferred ranges. The spread of livestock grazing further restricted them. Pronghorn antelope could not survive anywhere but the grasslands and soon disappeared from all of their former range in California except in the northeast corner of the state. California's tule elk (a smaller animal than the Rocky Mountain elk) was reduced to a single herd of twenty-eight hundred animals by 1895. This herd found refuge on a ranch south of Bakersfield owned by one Henry Miller.⁸ Today the tule elk survives in a limited area of mountains extending roughly from Lake Tahoe to Lassen Peak.

The white population influx affected the Indians' relationship to their resources in two ways: the white population drove Indians away from their food source, and the food source itself was depleted. In the first instance, competition for prime resource areas was keen. White settlers chose to make their farms in fertile valleys and rich river bottoms – generally the very places already occupied by Indians. The Indians then retreated to the hills where the food supply was inadequate for their subsistence. This process of displacement was especially pronounced in northern California along the Coast Range and the headwaters of

the Sacramento River system where early settlement concentrated in those regions also preferred by native people.⁹

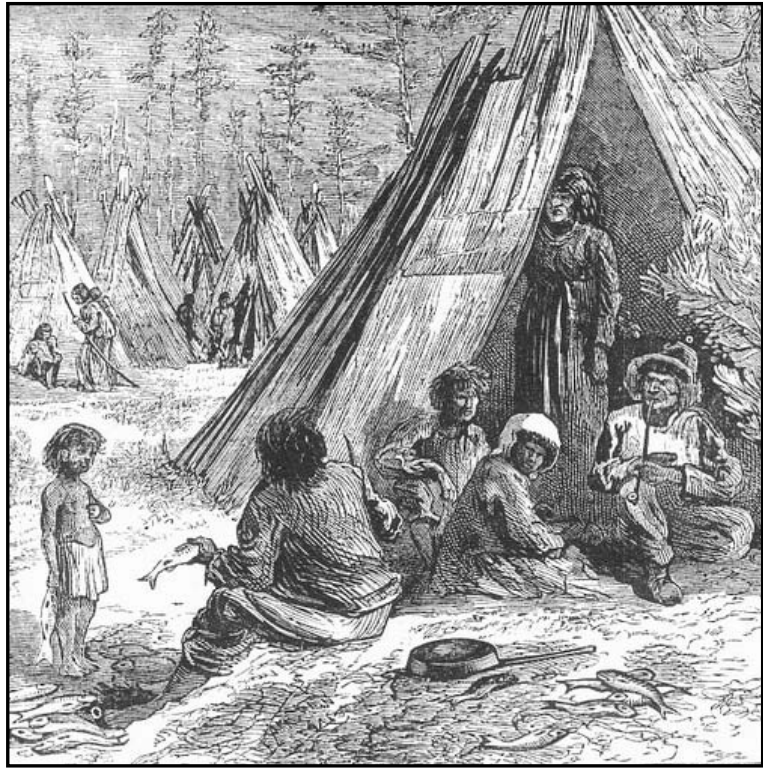
As the Indians occupied the hills, the distance between them and their food sources was not the only disruption of their former subsistence patterns. Most food items had to be processed and cached at the time of harvest. As the Indians were hounded from place to place, they lost their ability to store food supplies for later use. Moreover, white attacks on Indian villages (*rancherias*) sometimes resulted in the destruction of food caches. Based on his study of contemporary reports of such incidents, the late anthropologist Sherburne Cook has suggested that every Indian village in northern California was sacked, if not burned, at least once between 1855 and 1863, and that the loss of food supplies (primarily dried fish



Market hunting depleted elk and other game in northern California.
(Source: *Harper's Magazine*, vol. 13, 1856.)

and acorns) perhaps amounted to some 120 tons per year. Cook concluded, “If we say that the average population through the period 1850 to 1865 was 40,000, then the loss per person was 6 pounds per year; not a great quantity in the individual sense, but an appreciable loss when spread over a large population for a long time.”¹⁰

Depletion of the food supply was probably a more serious issue for most California Indians. Most importantly, mining activity adversely impacted salmon runs. Diversion dams blocked fish passage up many streams, while pollution reduced the abundance of fish in others. Moreover, as mining operations washed tons of dirt into streams, increasing the streams’ turbidity and making it impossible to see fish, Indians complained that they could no longer harvest fish by spearing.¹¹



An Indian rancheria. (Source: *Harper's New Monthly Magazine*, vol. 48, 1874.)

Cultural Dislocation

The white migration to California disrupted native cultures by introducing new human relations involving trade, labor, sex, and violence. The Indian experience in California in the 1850s differed from other regions of the United States chiefly because of the rapidity with which California became integrated into the world market. Elsewhere in North America, Indians were gradually drawn into the world economy through their integral role in the fur trade. Even in Spanish and Mexican California, Indians entered the world economy initially as farm laborers. The California gold rush, by contrast, brought such a rapid influx of whites that Indians were marginalized to a degree not seen elsewhere. Although the mining frontier in California was plagued by a shortage of labor and Indians supplied some of the labor needs, in general the gold rush displaced Indians from the labor market.

Historian Albert L. Hurtado has noted that the suddenness of the gold rush was particularly severe for Indians in northern California, who had

little prior experience with whites before 1848. The northern Indians “maintained unchallenged control over their own country until the gold rush, when the sparse white population forced them from their lands and impoverished them.” Most Indian groups in the north resorted to raiding, whereupon they met with retaliatory assaults from whites. “During the 1850s,” Hurtado writes, “the north became California’s dark and bloody ground.”¹²

Early settlers in northern California such as Peter Lassen traded with Indians for native foods. As more whites arrived, however, the whites’ demand for native foods and their reliance on Indian trade declined. In large part, the white population raised its own food supply by farming and bringing livestock into the region. Insofar as the white population required wild meat, white market hunters increasingly supplied the mining camps. Moreover, whites soon expropriated Indian resources such as salmon streams to use for their own purposes. Thus, California Indians did

not have as much success in trade relations with whites as they did on other frontiers.

Instead of trading with whites, many Indians offered their labor to the newcomers. Free labor by Indians was relatively rare. More often, Indians entered the labor market through a system of peonage that was adapted from earlier Spanish and Mexican models in southern California. Indians worked for whites as laborers on the whites' farms and ranches, and in return their employers provided them with food and shelter. The system was usually harsh and exploitative and in order to keep the Indians from running away the landowners often resorted to some type of coercion. At its worst, peonage was close to slavery and Indians were kidnapped and forced back to work if they tried to escape.¹³ Indian-white labor relations disrupted native society, for it removed many able-bodied individuals, particularly men, from the traditional family and community structure.

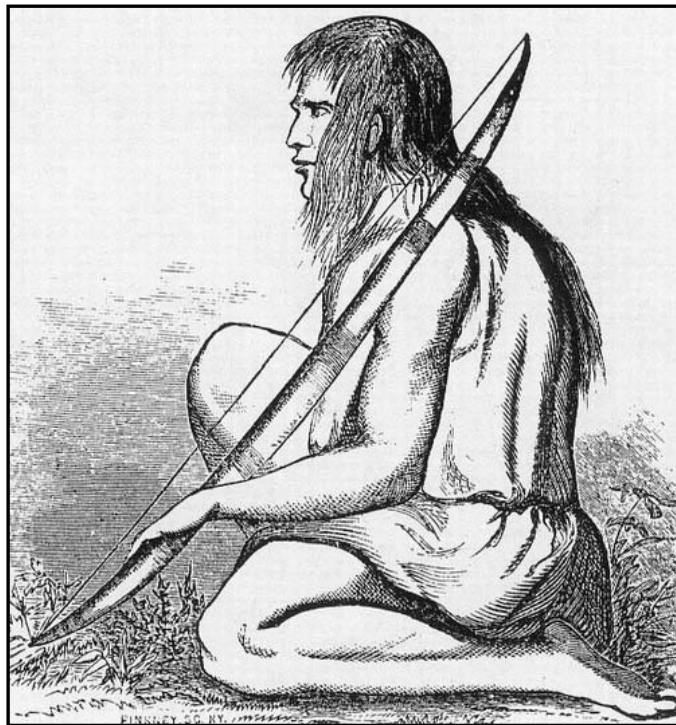
Sexual relations between whites and Indians tended to undermine native cultures and certainly contributed to the swift decline of the Indian

population as well. The Americans, more than the Spanish or Mexicans, faced a shortage of women on the frontier and sought to force Indian women into prostitution. Such was the market for prostitutes that Indian men sometimes forced their wives to engage in prostitution, or they raided other Indian groups and sold their female captives to whites for the purpose. White men and Indian women sometimes cohabited, but such relationships were usually transitory. Rape and forced concubinage were also characteristic of California's sexual frontier in the 1850s.¹⁴ These interracial sexual relations caused the spread of syphilis and gonorrhea among the Indian population, two of the deadliest diseases for California Indians in this period.¹⁵ Moreover, the physical and psychological havoc wrought on Indian women of childbearing age probably reduced the Indian birthrate drastically.¹⁶

Finally, cultural dislocation carried another cost in human lives from intentional killings, or in the anthropologist Cook's term, "social homicide." Cook distinguished between interracial warfare and social homicide though he admits that the one almost shades into the other. Cook defined social homicides as killings "directly attributable to the social conditions under which the natives were obliged to live and which would not normally occur either in aboriginal surrounding or, to a measurable extent, in a peaceful and well-ordered white community." Social homicides stemmed from quarrels, brawls, liquor, and sex, and included lynchings for various crimes. Although widespread, such violent deaths constituted probably less than one percent of Indian mortality during the 1850s.¹⁷

Disease

As on other frontiers, Indians experienced fearful mortality from introduced diseases in California in the 1850s. Epidemics struck the Indian population well before the gold rush era, yet the incidence of disease appears to have increased when the Americans arrived. Some reasons for the increase in mortality from disease have already been alluded to: the relative isolation of northern California tribes



Paiute Indian. The Paiute inhabited the arid country east of Lassen Peak. (Source: *Harper's Magazine*, vol. 17, 1858.)

prior to 1848, the increased spread of sexually transmitted diseases, and the lowering of Indian resistance to disease due to the prevalence of malnutrition or outright starvation.

Cook presented figures for mortality from disease for the Maidu, and he suggested these are probably representative of Yana, Wintun, and other Indian groups in the Lassen Peak region. (Cook's figures cover only the Maidu in Butte, Yuba, Sutter, and Nevada counties, but he argued that the Maidu in the northern part of their territory would have suffered just as severely as the Maidu in these counties.) He ascribed 3,500 deaths by disease to the Maidu from 1848 to 1865. Based on contemporary population estimates of the Maidu, Cook found that disease accounted for 58 percent of deaths among the Maidu in this period. He speculated that more remote tribes such as the Achomawi (Pitt River Indians) northeast of Lassen Peak) were less exposed, and for these groups disease may have accounted for about 40 percent of the population decline.¹⁸

Warfare

Warfare between whites and Indians in California resulted in many thousands of deaths – mostly Indian – during the 1850s and early 1860s. By 1865, the tribes were generally subdued. Federal troops were involved in this warfare to a degree, but white citizen posses played a much greater role. So generalized was this human violence, especially in the north, that it has been called “Indian hunting.” Although warfare may not have taken as many lives directly as disease, it terrorized the Indians and removed them from their food sources. Indeed, California Adjutant General William C. Kibbe announced that it was his aim to drive the Indians into the mountains during their food-gathering season so that they might starve.¹⁹

Cook compiled records of Indian casualties from warfare, including incidents of killings perpetrated by white citizens, and tabulated the figures by tribe. He showed a total of nearly 4500 Indian deaths from warfare in the gold rush era. While the numbers are appalling, they were also revisionist in that they challenged the earlier view

– first presented in the works of Hubert Howe Bancroft – that warfare was largely responsible for the destruction of California Indians. Cook showed that disease was by far more deadly than warfare for California Indians. No scholar since Cook has systematically tested his figures, but subsequent historians have generally assumed that the estimate of deaths from warfare is low.²⁰

Indian hunting usually began as an effort to capture Indians and force them into the system of peonage. In the early years of the gold rush, whites adapted the Spanish and Mexican system of peonage to their own ends and extended it to northern California. Assisted by indentured servitude and apprenticeship acts passed by the new California state legislature, they were able to compel Indians to work for them without wages. Whites raided Indian villages to seize Indian laborers for use or sale. Indians, for their part, raided whites' ranches for livestock. Indians and white ranchers and farmers often lived in uneasy proximity of each other. The racial prejudice of Robert Anderson, a homesteader who ran cattle in Mill Creek and Deer Creek, was not atypical of white settlers in the Lassen Peak region. He complained of the “savage Indians” who “infested the region where [he] lived.”²¹

Nor was Anderson's fear particularly unfounded. Through the 1870s, the State of California and U.S. Army officials reported numerous “Indian outrages” along emigrant trails and in nascent white settlements. In January 1860 Kibbe “reported Indian depredations . . . to the white population of that tract of country extending from Butte Creek on the south, to the head of Pit River on the north,” depredations reported to include “driving off of the stock, destroying the improvements, and not unfrequently [sic] murdering in cold blood the defenseless inhabitants of that sparsely settled region.” Two years later, Butte County (today's Plumas County) settlers requested one company of infantry “to assist the citizens in effectually putting an end to Indian outrages.”²²

These tense relations made the country a fearful place for whites and Indians. When sheep rancher G. G. Kimball trailed his livestock from the Sacramento Valley around the north side of

Lassen Peak to Honey Lake Valley in 1865, he was vigilant for signs of Indians and sometimes slept with his rifle handy and his boots on. The people of Susanville, he noted, dreaded the Indians and warned Kimball and his men that the Indians would fry them for breakfast one morning. Kimball's diary is revealing of how whites exaggerated the Indian threat to justify their own brutality toward the Indians. When his party encountered a saddle train coming from Surprise Valley, the muleskinners taunted the sheep men with frightening descriptions of what they should expect on the trail ahead. The muleskinners reported seeing white men's heads, hands, legs, and arms hung in tree branches as a warning, and predicted that Kimball's men would be "mince meat for them Indians." Confronted with the thought of his party being captured, cut to pieces, and eaten, Kimball bravely replied that his men would "be as tough as any they had got hold of lately."²³

The Lassen Peak region's namesake pioneer, Peter Lassen, reportedly took part in at least one instance of Indian hunting – despite a reputation for fairness with the Indians whom he employed at his ranch.²⁴ The incident occurred in 1851 and was recorded in an article in *Hutchings' California Magazine* in 1857. The anonymous author heard the tale from the pioneer's close friend, Isadore Meyerwitz, while Meyerwitz and the author were enjoying a "jaunt to Honey Lake Valley and Noble's Pass" in 1854. Lassen was not present when Meyerwitz related the tale. As the story was written, it suggests that Lassen, though possibly protecting his camp from an Indian raid (and perhaps more fearful for his own life than the narrator suggests) nevertheless killed Indians with a callousness that is shocking by present-day standards yet was not atypical of pioneer attitudes on the California frontier. The story is hearsay but effectively conveys an understanding of a time and place of enormous conflict and cultural dislocation on a scale seen nowhere else on the western frontier. Because of the controversial nature of the material and its hearsay quality, the story is quoted here in full:

It appears that in the fall of 1851, the Pitt River Indians – called by these Indians "Pikas," – made up a war party against the Indian Valley

Indians, for the purpose of obtaining their squaws – the possession of the women being the only motive for the war – and the latter being by far the weaker party, lost a large number of their men in killing and their women as prisoners.

When the news of this slaughter reached the whites who had made settlements in this valley; and who felt that these Indians were somewhat under their protection, they made up a party, thirteen in number, for the purpose of assisting the Indian Valley Indians in chastising the Pitt River Indians. This party, under the old pioneer Peter Lassen, left Indian valley, accompanied by all the able bodied Indians that could be found.

After being out a couple of days, according to his usual custom, "Old Peter," (as Mr. Lassen is familiarly called) awoke at daybreak, and was sitting quietly upon the ground smoking his pipe, when he saw Indians, with stealthy steps passing among the trees, and entirely away from his own party; quietly taking up his faithful rifle, he, with unerring aim, shot one of them in the head, muttering as he again reloaded his "old shooting iron." "There's one wiped out." He again fired; "down he comes," said he, as he again quickly began reloading. "That fetches him," as a third fell, never to rise again. "This was but the work of a minute," said Isadore, as he related the narrative, "Old Peter shot down three of the Indians, without taking his pipe from his mouth."

By this time the whole camp was in motion; and, with this beginning, they eagerly followed up the advantage gained; and when "Old Peter" gave the characteristic order – "Pitch in Blueskins" – to the Indians, they, in company with their thirteen white friends, made sad havoc that day among their enemies, the Pikas, completely routing and conquering them.²⁵

Peter Lassen was himself murdered in 1858, while prospecting about 140 miles northeast of Susanville. Although the murder was never solved, evidence pointed toward a Paiute. Lassen was camped with two men named Edward Clapper and Lemerich Wyatt. In Wyatt's account of the incident, Clapper was shot through the temple while they all three lay sleeping on the ground. Wyatt dove for cover, while Lassen stood up by his bed scanning the nearby rocks to see where the shot had come from. In the next moment he was felled by a second shot. Wyatt never saw the

shooter, but believed it to be a Paiute who had visited their camp the prior evening.²⁶

Peter Lassen's probable involvement in the killing of Pitt River Indians in 1851, and his violent death in 1858, both speak to the brutal conditions that characterized race relations on the California frontier in the gold rush era. Some historians have gone as far as to apply the term *genocide* to the white assault on California Indians in this period. They reason that the mass killings, if not actually sanctioned by the state, had the widespread support of white citizens.²⁷ Historian James J. Rawls observes that some local governments in California placed bounties on Indians' scalps. For example, citizens of Honey Lake paid twenty-five cents per Indian scalp in 1863. Volunteer militia submitted claims for expenditures in their bloody work against the Indians, and the state legislature paid for it from the state treasury. Ultimately the federal government reimbursed the state for some of these claims. "Thus the murder of Indians on the California frontier," Rawls writes, "was legalized and publicly subsidized."²⁸

Federal Indian Policy

California Indians presented a perplexing problem for the federal government. California was far away, information about Indian affairs was sketchy and confusing, and the new state government quickly began to take the administration of Indian affairs into its own hands. Moreover, Congress had transferred the Indian Office from the War Department to the Department of the Interior in 1849, and was deterred by sectional politics from taking a strong hand in California while it worked out the Compromise of 1850. The first important federal legislation involving California Indians authorized the appointment of three agents to manage Indian affairs. President Millard Fillmore selected Oliver M. Wozencraft, Redick McKee, and George W. Barbour. Secretary of the Interior A. H. H. Stuart upgraded the three agents to commissioners and directed them to negotiate land cession treaties with various California Indian tribes.²⁹

In the spring and summer of 1851 the three commissioners traveled the length of California and negotiated a total of eighteen treaties. One of these treaties proposed to establish a large reservation due west of present-day Lassen Volcanic National Park. Concluded at Reading's ranch on Cottonwood Creek between Commissioner Wozencraft and various chiefs and headmen of the Nomlaki, the treaty pledged the Indians to accept the authority and protection of the United States and to remove to the reservation. The boundaries of the reservation ran from the mouth of Ash Creek up that stream for twenty-five miles, then due north to the Pit River, then down the Pit and Sacramento rivers to the place of beginning. In return for the Nomlaki's cooperation, the federal government would provide them with 500 cattle and 75 sacks of flour as well as a demonstration farm, blacksmith, and school.³⁰

The eighteen treaties, if ratified, would have established a chain of reservations along the foot of the Sierra Range. The commissioners' idea was to concentrate all of California's Indians on these lands for the Indians' protection. Between the reservations and the mountains were the mining camps, blocking the Indians' escape routes to the mountains. Thus confined, the Indians would be deterred from making war or stealing livestock, the commissioners reasoned. California's ranchers, however, saw it differently. They balked at the treaties' promises of cattle and flour for the Indians, fearing that the Indians would be settled on what would amount to government-subsidized ranching operations. If the reservations succeeded, the Indians would not only refuse to work for white ranchers but would compete with them in the marketplace. As white opposition to the treaties increased, the Senate finally voted against ratification in July 1852.³¹

In the meantime, Congress created the California Superintendency of Indian Affairs, and President Fillmore appointed a retired naval officer, Lieutenant Edward F. Beale, to the position. Beale had exceptional energy and proposed a new approach for Indian policy based on "military posts." Indians would be invited to congregate at these posts, where they would find

military protection and demonstration farms. The costs of administration would be defrayed by sales of surplus produce. Congress responded favorably to Beale's proposal, authorizing the establishment of five military reservations of not more than 25,000 acres each for the protection of California Indians.³²

Beale's successor, Thomas J. Henley of San Francisco, endorsed Beale's policy and decided to establish a reservation in northern California for the Nomlaki and other Indian groups who could be persuaded to settle in the area. The Nome Lackee Military Post, also known as the Nomlaki Reservation, was situated west of the Sacramento River in present-day Tehama County. The Nomlaki, who were already reduced in number, willingly came to the post for protection from slave raiders and began gathering seeds and acorns for the winter. There they were joined by Indians of other tribes, many being brought there by force. For a few years the Nomlaki Reservation almost flourished, the Indian population rose to 1200, and some crops were produced. But when the crops failed the Indians had to flee the reservation to avoid starvation.³³

Although additional reservations were created, including one at Round Valley, the system was already in decline by 1860. The forced marches of Indians under guard became increasingly desperate. Cook described the plight of some Achomawi and Maidu who may have been attempting to return to their homeland in the Lassen Peak region:

They were a part of the large body of Indians who had been shipped in a body to Round Valley about 1860. In 1862 Agent Storms reported that the survivors, four hundred of them, had "left" the reservation headed eastward. Since there was no crop raised on the reservation, they had migrated to avoid starvation. We next hear of them at the moribund Nome Lackee Reservation, west of Tehama. The citizens thereabouts voted a set of resolutions requesting the removal of these Indians, "deposited at Nome Lackee by the authorities," who had left the Indians totally destitute, with no means of support and with no agent to look after them. From Nome Lackee

A Report on Efforts to Remove Lassen Region Indians to the Nomlaki Reservation

Thomas Henley to G. W. Manypenny, October 14, 1854

The meeting with the Indians of Nevada County of which I advised you by last mail came off at Storms Ranch on the 6th inst. and resulted in an agreement with the chiefs present to send to the Noomelacke Reservation a deputation of three from each tribe, about thirty in all, to remain there during the winter and assist in planting the crop, preparatory to the removal of their respective tribes next summer. At this place I found what I have not encountered anywhere else – some opposition to the removal of the Indians; but the force of public sentiment which is very strong on the other side will soon silence all opposition, and the policy of removal will meet with no serious opposition in this quarter.

Source: Roll 33, M-234, Letters Received by the Office of Indian Affairs, California Superintendency, National Archives.

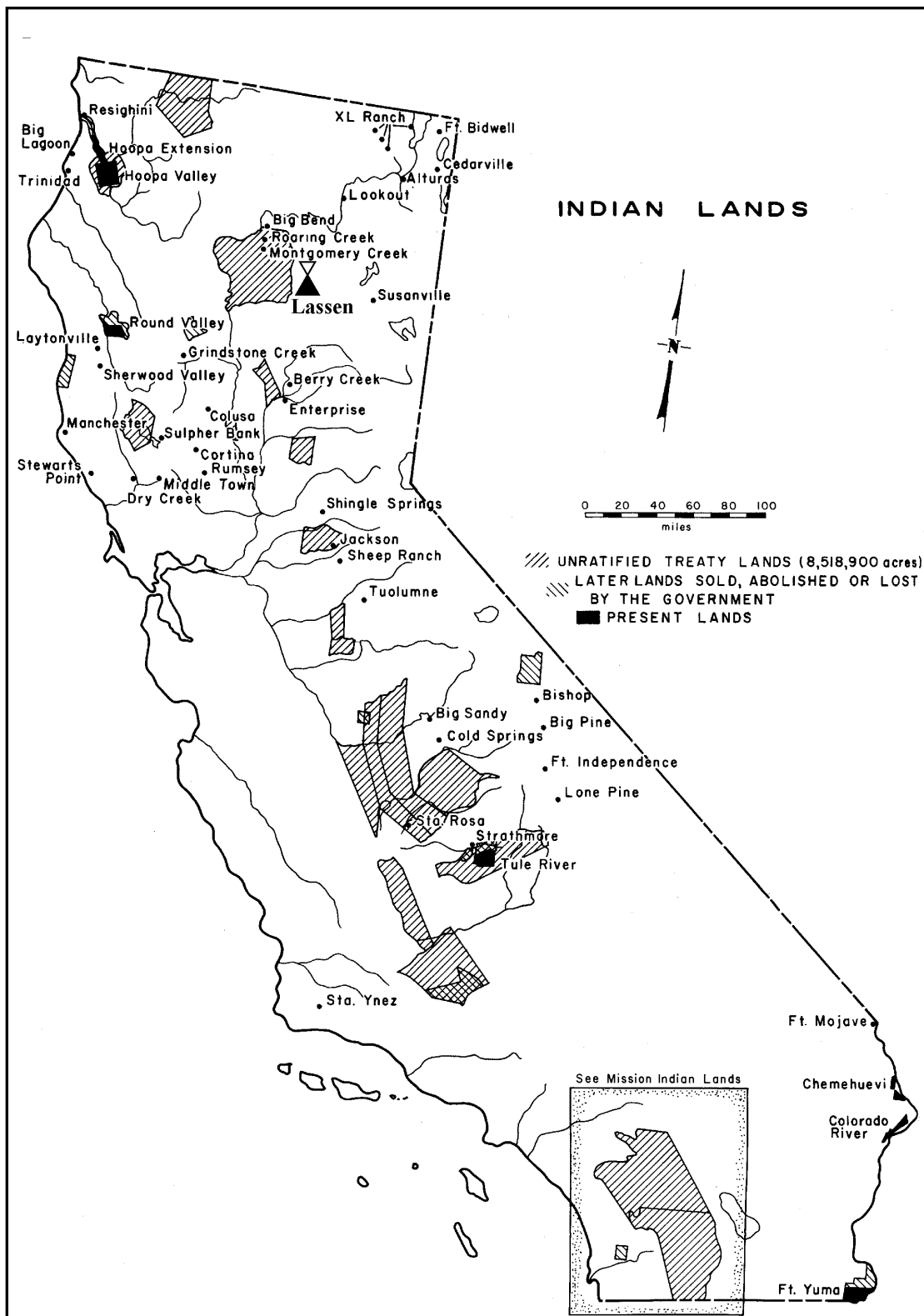
they evidently moved, or were moved, to the "Old Landing" on the Sacramento River, whence they were again pushed on to Major Bidwell's ranch near Chico. At this time, the summer of 1863, there were three hundred left and there was among the children, as the *Appeal* quaintly put it, a "temporary" epidemic due "to a change of diet." Finally, the Indian Service got around to assembling them and dumping them once more at Round Valley, where they remained thereafter.³⁴

Most of the reservations were abandoned. By 1869, only the Tule River, Round Valley, and Hoopa Valley reservations remained.³⁵

A final outbreak of fighting between Indians and whites occurred in the winter of 1872-73 known as the Modoc War. The Modocs had been removed to a reservation in southern Oregon in the early 1860s, where they found conditions intolerable. Many had returned to their homeland in northern California. During the winter of 1872-73, nearly 1,000 federal troops pursued about 150 Modocs through the rugged lava beds of Siskiyou County.³⁶

Ishi, the Lonely

By the 1870s, the Yana, Maidu, and Atsugewi had been similarly subdued and Yana camps were sighted only infrequently. By 1900 it was believed that no member of the Yana tribe had survived the dislocation of the nineteenth century.



The reservations proposed in the unratified treaties of 1851 are shown in hash marks. The reservations formed in the 1854-1865 period, which survived, are shown in black. (Source: Warren A. Beck and Ynez D. Haase, *Historical Atlas of California*, Norman: University of Oklahoma Press, 1974.)

In 1911, a man emerged from hiding, the last of his people, finally succumbing to hunger and immense loneliness and possessed of the will to find a new life among the white people who had overwhelmed his homeland. His name never asked of him, protected as “a most private and intimate part of one’s self,” he became “Ishi,” or “man,” “one of the People,” in the Yana language.³⁷ Ishi was soon brought into association with the prominent anthropologist Dr. Alfred

Kroeber at the University of California, Berkeley. Ishi died in 1916, after imparting his knowledge of traditional native culture to his friend and benefactor, Kroeber. In 1999, the National Museum of Natural History returned Ishi’s human remains to the Pitt River Tribe, Ishi’s closest living relatives. Ishi’s story is celebrated in Theodora Kroeber’s *Ishi in Two Worlds: A Biography of the Last Wild Indian in North America* (1961).

Chapter Four Notes_____

¹ Robert F. Heizer and Theodora Kroeber, eds., *Ishi the Last Yahi. A Documentary History* (Berkeley: University of California Press, 1979), p. 2.

² Sherburne F. Cook, *The Conflict Between the California Indian and White Civilization* (Berkeley: University of California Press, 1976), pp. 280-300.

³ Ann Vileisis, *Discovering the Unknown Landscape: A History of America's Wetlands* (Washington: Island Press, 1997), p. 86.

⁴ Raymond F. Dasmann, "Environmental Changes before and after the Gold Rush," in *A Golden State: Mining and Economic Development in Gold Rush California*, edited by James J. Rawls and Richard J. Orsi (Berkeley: University of California Press, 1999), pp. 117-118.

⁵ Vileisis, *Discovering the Unknown Landscape*, pp. 25-26, 86.

⁶ Dasmann, "Environmental Changes before and after the Gold Rush," pp. 113-114.

⁷ Jesse Healy, "My Reminiscences," *Quarterly of the Society of California Pioneers*. Vol. 9, No. 4 (December 1932), p. 254.

⁸ Dasmann, "Environmental Changes before and after the Gold Rush," p. 112-113.

⁹ Cook, *The Conflict Between the California Indian and White Civilization*, p. 281.

¹⁰ Cook, *The Conflict Between the California Indian and White Civilization*, p. 287.

¹¹ Cook, *The Conflict Between the California Indian and White Civilization*, p. 288.

¹² Albert L. Hurtado, *Indian Survival on the California Frontier* (New Haven: Yale University Press, 1988), p. 123.

¹³ Cook, *The Conflict Between the California Indian and White Civilization*, p. 302.

¹⁴ Hurtado, *Indian Survival on the California Frontier*, pp. 169-182.

¹⁵ Cook, *The Conflict between the California Indian and White Civilization*, pp. 267-279.

¹⁶ Hurtado, *Indian Survival on the California Frontier*, pp. 187-192.

¹⁷ Cook, *The Conflict between the California Indian and White Civilization*, pp. 263-267.

¹⁸ Cook, *The California Indian and White Civilization*, pp. 277-278.

¹⁹ Cook, *The California Indian and White Civilization*, p. 281.

²⁰ Hurtado, *Indian Survival on the California Frontier*, p. 2; Richard White, "It's Your Misfortune and None of My Own" (Norman: University of Oklahoma Press, 1991), p. 338.

²¹ Quoted in William K. Medlin, *Fire Mountain. A Nation's Heritage in Jeopardy* (Santa Fe, New Mexico: Sunstone Press, 1996), p. 37.

²² Report of Wm. C. Kibbe to John G. Downey, Governor of California, January 16, 1860; State of California, Executive Department, to Brig. Gen. George Wright, U.S. Army, Commanding Department of the Pacific, San Francisco, Cal., June 27, 1862. Both quoted in Heizer and Theodora Kroeber, eds., *Ishi the Last Yahi. A Documentary History*, pp. 9, 15.

²³ Kimball Journal, June 21, June 25, June 28, 1865, Vertical File: Tehama County Sheep Drives, Lassen County Historical Society, Susanville, California.

²⁴ Ruby Johnson Swartzlow, *Peter Lassen: Northern California's Trail-Blazer* (San Francisco: California Historical Society, 1940), p. 7. Swartzlow notes that Lassen immediately made friends with Indians in the vicinity of the Rancho *Bosquejo*, and that he hired them as laborers and "probably paid them in the typical American manner." These Indians called him "Uncle Peter."

²⁵ “A Jaunt to Honey Lake Valley and Noble’s Pass,” *Hutchings’ California Magazine*, Vol. 1, No. 12 (June 1857), pp. 319-320. If this account is factual, Lassen’s behavior apparently did not prevent him from securing a reputation among his white contemporaries for fairness in his relations with Indians. On several occasions, Lassen assisted federal officials in their efforts to resolve difficulties between Indians and whites in the area. On at least one occasion he served as a special agent and negotiated “agreements” with a band of Paiutes inhabiting the Honey Lake Valley. Lassen was reportedly a “personal friend” of Winnemucca, chief of these Paiutes. Taking into account all of the evidence and what is known about white-Indian relations in California during the gold-rush era, Lassen probably had the same racist impulses toward his Indian neighbors as other whites with whom he associated. Whether he was murdered by a Paiute or not, he was a pioneer in a time and place where bloodshed between Indians and whites was common and relations between the two races were generally disastrous.

²⁶ Swartzlow, *Peter Lassen*, pp. 13-14.

²⁷ Hurtado cites, for example, Jack Norton, *Genocide in Northwestern California: When Our Worlds Cried* (1979), Lynwood Carranco and Estle Beard, *Genocide and Vendetta: The Round Valley Wars of Northern California* (1981), and Jack Forbes, *Native Americans of California and Nevada* (1969). For a discussion of the use of the term genocide, see Hurtado, *Indian Survival on the California Frontier*, p. 4.

²⁸ James J. Rawls, *Indians of California: The Changing Image* (Norman: University of Oklahoma Press, 1984), pp. 185-186.

²⁹ Hurtado, *Indian Survival on the California Frontier*, p. 132.

³⁰ “Treaty with the Noi-Ma, Noe-Ma, Y-Lac-Ca, No-Me, and Noi-Me, August 16, 1851,” in Vine Deloria, Jr. and Raymond J. DeMallie, *Documents of American Indian Diplomacy: Treaties, Agreements, and Conventions, 1775-1979*, Vol. 2 (Norman: University of Oklahoma Press, 1999), pp. 825-826.

³¹ Hurtado, *Indian Survival on the California Frontier*, pp. 136-141.

³² Hurtado, *Indian Survival on the California Frontier*, pp. 141-142.

³³ Hurtado, *Indian Survival on the California Frontier*, pp. 145-147.

³⁴ Cook, *California Indians and White Civilization*, p. 285.

³⁵ Rawls, *Indians of California*, p. 158.

³⁶ Rawls, *Indians of California*, p. 206.

³⁷ Heizer and Theodora Kroeber, eds., *Ishi the Last Yahi. A Documentary History*, p. 2.

Chapter Five

“Above the Apple Altitudes”: Extractive Industry and Permanent Settlement in the Lassen Region



When Ishi emerged and reminded a nation of the human cost of empire building, California's newest residents had long since turned from the Indian wars to the tasks of building homes and communities and enticing others to join them. 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:

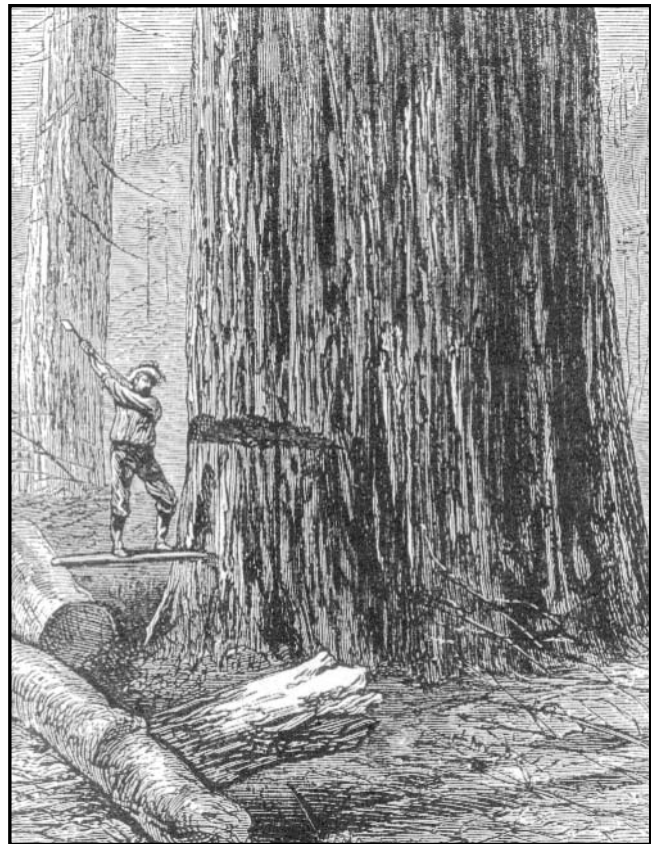
To the unaccustomed, the rugged landscape may lack appealing force from the viewpoint of commercial value, but to the accustomed it spells diversity. Here you have the varied products of an empire within the border confines of a county. The range in altitude from the valley floor, approximately five 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.¹

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.² 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.

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.

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,



"Big Tree."

(Source: Harper's *New Monthly Magazine*, vol. 48, 1874.)

The Legacy of Conquest, historian Patricia Limerick argues 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 writes. “There was one appropriate way to treat land – divide it, distribute it, register it.”³ 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 Preemption Act (various); the Homestead Act of 1862 (as amended); and the Timber and Stone Act of 1878 (as amended).

The history of the various preemption acts is largely the history of public debate surrounding the merits and the legal means of distributing the public domain.⁴ “Preemption” defined the preferential right of a settler on public lands to buy his claim prior to the offering of said land at public auction and prior to federal survey. Following the War of Independence, the 13 original states ceded their public lands west of the Appalachian Mountains to the federal government, thereby creating the first public domain. Additional lands would be added to this public domain through conquest (the Indian Wars; the Mexican-American War), purchase (most notably the Louisiana Purchase), and negotiation (Washington and Oregon territories, for example).

Sale and distribution of these lands to interested parties encouraged their settlement, secured American control, reduced the national debt, and was widely viewed as being in the nation’s best interest. The means of sales and distribution, however, were hotly debated. Those who protested the right of preemption argued that it overstocked the market – thereby reducing the

sale and taxable value of the land – invited land speculation, and encouraged the taking of the best of the public domain (and the natural resources thereon) while compelling the federal government to, in the end, “take back the poorer portions.”⁵ In 1824 in response to a petition from Illinois for a grant of preemption, the House Committee on Public Lands described the petition as a

system of indulgence to those who trespass by making unauthorized settlements upon the lands of the United States after those lands are known to belong to the government, would in the opinion of the committee be productive of such perplexity to the government as well as perjury to those concerned in the purchase and settlement of the national domain.⁶

Others argued that in fact, preemption effectively placed the public lands within the reach of the people at large, granting them their “natural right to the soil” and the means to secure life and liberty and to pursue happiness.⁷ Within the context of this intricate philosophical debate, an alliance of southern and western Congressional representatives passed the Preemption Act of 1830, whereby any settler who had migrated to the public domain and had cultivated a tract of land was authorized to enter up to a maximum of 160 acres by paying the minimum price of \$1.25 per acre. With passage of the Homestead Act of 1862, preemption was continued on unsurveyed lands on the public domain, while the Homestead Act applied only to surveyed lands.⁸

The Homestead Act followed on the tradition of the preemption act and was 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.”⁹ The act was as quickly denounced by detractors as “bring[ing] in upon us a vile horde of the most worthless class of emigrants.”¹⁰ 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;

Insert Acquisition Map; foldout from ERG.
Coming Monday

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thenceforth, they were required to inhabit the site, in a cabin no smaller than 12 feet x 16 feet, 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.¹¹

In contrast to much of the timbered Southern, Great Lakes, and Pacific Northwest states, 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.” Through the 1860s, lumbermen cut trees 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.”¹²

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. 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 percent of the entries were transferred to timber and milling companies at prices as high in some instances as \$3,000 for a quarter section.¹³

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 including in the

Coffee Timber Claim

Men and women taking advantage of the Timber and Stone Act within what would become Lassen Volcanic National Park included William Henderson Coffee of Shingletown who, in 1883, purchased the NESE of Section 18 T31N R4E (at Reflection Lake) under the terms of the Timber and Stone Act of June 3, 1878. In approving Coffee’s claim, GLO officials determined that the land was unfit for cultivation (“too mountainous and too rocky”), valuable chiefly for its timber, and void of all physical improvements save for a dam for “raising fish.” Soon after acquisition, Coffee and his business partner “Dr. Stockton” had cleared the land of timber and were raising timothy hay, presumably in association with a stockraising operation.

Source: 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.

national park. Finally, 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. Six “June 11” claims were filed for land now located within Lassen Volcanic National Park (See Chapter Seven for a more detailed history of USFS management of this land base.)

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.¹⁴ 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 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.¹⁵

North of Lassen Peak, Samuel Lockhart built a wagon road in 1855-56 that branched off the Nobles Road 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.¹⁶

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.¹⁷

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 Tehema toll road to the Supan sulphur claim.¹⁸

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

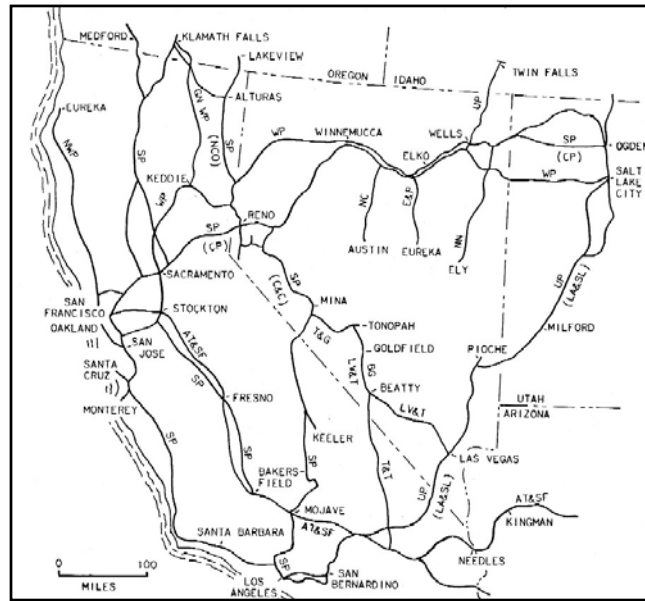
GLO Map

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via the transcontinental line at Sacramento.¹⁹ By 1900, over 17 trains a day passed between Red Bluff and Dunsmuir (north of Redding), with lumber constituting the primary “westbound” tonnage (Dunsmuir to Red Bluff). Additional nineteenth century rail lines in the more-immediate vicinity of Lassen Peak included the Sierra Valley & Mohawk narrow gauge line operating between Beckwourth Pass, and Clio (“an ill-fated lumber project” providing service described by railroad historian David Myrick as “tremulous and somewhat uncertain”) and the Nevada California and Oregon Railway between Reno and Lakeview, a line dependent almost exclusively upon cattle, sheep, and lumber traffic.²⁰

In 1909, the Western Pacific Railroad Company expanded this service to include the “Most Recent of the Transcontinentals,” a line extending from Oakland, California to Salt Lake City, through the Feather River Country of northern California. The Western Pacific intended primarily to capitalize on freight traffic, and the 1910s witnessed construction of a number of independent logging railroads designed to haul logs and copper ore to the main line; these roads included the Quincy Western Railroad between Hartwell (now Quincy Junction) and Quincy and the Indian Valley Railroad between Paxton and the Engel copper mine.²¹

The Western Pacific was not alone in its pursuit of lucrative timber freight: In 1912, the Southern Pacific began construction of its Fernley & Lassen branch line, extending from Wadsworth, Nevada to Susanville and Westwood and designed primarily to capitalize on the freight generated by the Red River Lumber Company’s Westwood mill. (In addition, the Southern Pacific, via the Mount Lassen Transit Company of Westwood, sponsored auto-service connection from the Westwood Station to Lassen Volcanic National Park, an attempt to capitalize on tourist traffic; see Chapter Nine.)²² Finally, in 1931, the Western Pacific built a branch line from Keddle to Bieber, where it connected with the Great Northern Line.²³



Railroads of Nevada and Eastern California. David F. Myrick. *Railroads of Nevada and Eastern California. Vol. One: the Northern Roads* (Berkeley: Howell-North Books, 1962), p. vii.

Mining

In the decades following the gold strike at Sutter’s Mill, geologists suggested and hopeful prospectors believed that the gold-bearing ancient river channels found in the Mother Lode Country extended northward where they underlay more recent deposits of mud and lava in the volcanic region surrounding Lassen Peak.²⁴ Decades of survey and exploration revealed the theory as false and by 1900, mineral maps of California showed what prospectors 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 Chapter Four). 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 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.”²⁵

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.

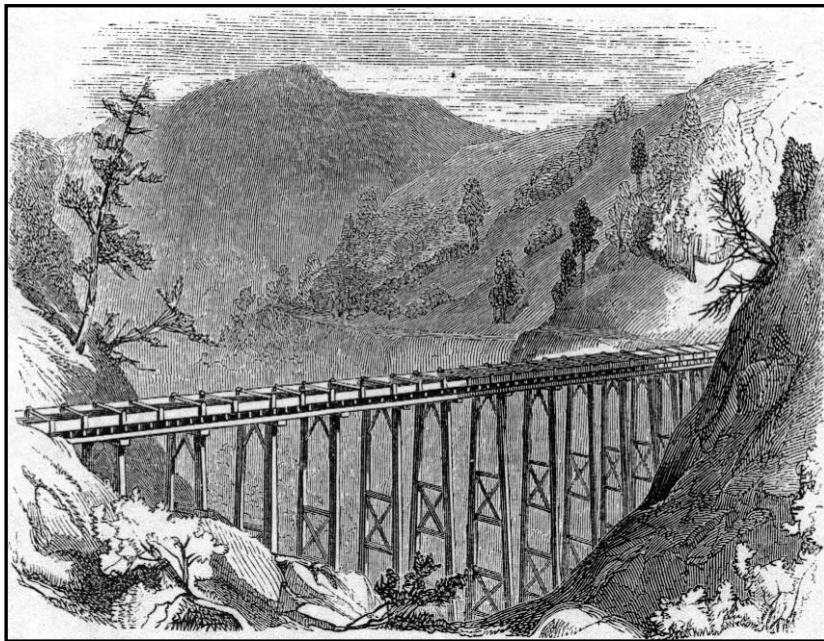
Most of those who had been interested abandoned the field entirely, and the few survivors spent the next half-dozen years in learning painfully, by trial and error, how to trace a vein, sink a shaft, break loose the ore, hoist it to the surface, crush it, and extract the gold from the resultant mass of ground-up material.²⁶

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

If 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.

Sulfur Mines

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. Some of the hot springs are within view of the present park road. 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



A mining flume in 1860. (Source: Harper’s Magazine, vol. 20, 1860.)

yellow sulfur have formed over the immediate area around it.²⁷

In September 1865, the *Red Bluff Independent* reported that one T. M. Boardman and some 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."²⁸

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 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 H₂S 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.²⁹ "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."³⁰

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 rather than a mining claim, with business bolstered by the site's direct proximity to the newly-constructed Lassen Peak 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.³¹

Little is known about Supan's process of refining. The common method of treating sulfur ore in Sicily in 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.³²

When Mathias Supan and his wife Angeline divorced in 1886, she obtained the Sulphur Works and the mine was idled. In 1892, Angeline Supan filed a homestead claim for 160 acres below the junction of the east and west forks of Sulphur Creek, obtaining the patent in 1900. The family lived in a cabin and ran cattle in the area.³³ Her eldest son, Milton, obtained a 160-acre homestead in Little Hot Springs Valley, on the east fork of Sulphur Creek, about one mile east of the Sulphur Works.³⁴ In May 1916, Milton Supan and seven other members of the family filed a claim to the site of the Sulphur Works, calling it the Yellow Ochre mine. Probably they were anxious to establish their right before the area was included in a new national park. Congress established Lassen Volcanic National Park only three months later. Although the mine property would produce no more than a little sulfur for the manufacture of paint, the Supan family held onto it until 1951 when the Park Service's long-term acquisition efforts finally proved successful (see Chapter Nine).³⁵

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 and who ranched just below Bumpass Hell in the vicinity of today's Battle Creek Meadows. 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 feet deep (abandoned)" at the site, which he labeled "Bumpber's Hell, Boiling Sulphur Spring."³⁶

The Dutch Hill Mine

The Dutch Hill Mine was located about six miles south of Big Meadows. The mine apparently dated from the mid-1850s, although it was not recorded on county tax assessor rolls until 1865-1869.³⁷ 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.³⁸ The Dutch Hill Mine was the most prominent of several drift mines in this deposit. Others included the Barker Hill, Cummings Hill, and Owl Hill mines. 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.³⁹

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 ½ 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.⁴⁰

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 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.”⁴¹

For a few years, the Dutch Hill Mine supported a community of Dutch Hill. 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.⁴²

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 1890.⁴³

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 Power at Lake Almanor

Water draining from the slopes of Lassen Peak soon proved of value beyond the mining industry. By the beginning of the twentieth century, the growth of California’s major cities created a thirst for water that could only be met by tapping the creeks and rivers that rushed down the western slope of the Sierra Nevada. At the same time, the rise of street and interurban electric railways and other forms of electric power utilization stimulated a demand for hydroelectric development. Not all of the demand for electricity emanated from the cities; the mining industry developed new methods of smelting and processing ore that required large amounts of electricity. Hydroelectric dams and reservoirs became a new feature of California’s mountain landscape.

Southeast of Lassen Peak, the Great Western Power Company built a dam on the North Fork of the Feather River and transformed Big Meadows into a reservoir named Lake Almanor. The plan originated with Julius M. Howells, a civil engineer who accompanied a geological survey of the Lassen Peak region in the early 1880s. Howells

saw the possibility of building a dam where the river drops through a narrow canyon below Big Meadows. Above the dam site the broad valley covered an area of some 50 square miles, while below the dam site the river began a descent of 4,350 feet in elevation in 74 miles. By 1901, the Great Western Power Company had taken a keen interest in Howells' plan and began purchasing private lands in Big Meadows in anticipation of building the dam. In 1914, the company completed the dam and the reservoir began to fill.⁴⁴

The drowning of Big Meadows eliminated a substantial community of farms and ranches and resulted in the largest privately-developed reservoir of its day. Yet the project did not arouse much opposition or controversy. Unlike Los Angeles' battle with local farmers over water in the Owens Valley, or San Francisco's fight with preservationists over the use of Hetch Hetchy Valley, the Great Western Power Company was able to convince most valley residents of Big Meadows that the dam and reservoir were for the public good. The primary reason was that Lake Almanor was promoted as a recreational resource that would surpass the value of the land for ranching.⁴⁵

During the latter nineteenth century, Big Meadows was populated by Maidu Indians, white homesteaders, and ranchers. The town of Chester, dating from the 1890s, was a service center for the scattered valley residents and the mining camps at the upper end of the North Fork of the Feather River, and an overnight stage stop on the Humboldt Road between Chico and Susanville. With the creation of Lake Almanor, area residents hoped that the reservoir itself would provide compensating recreational attractions. In 1915, the *Plumas National Bulletin* boasted that the artificial lake could "rival" Lake Tahoe and claimed that it was "the best fishing ground in California." A year later, it remarked that "the eyes of vacationists of the Sacramento valley and bay cities have been turned to this new Mecca for sportsmen."⁴⁶

To a later generation of area residents, the environmental consequences of the creation of Lake Almanor appeared less favorable. Excellent trout streams in Big Meadows had been lost. Marsh lands in the valley had supported an abundance of waterfowl for sportsmen. Although some nesting ground remained at the north end of the lake, the bird population was reduced. "The first class waterfowl shooting wick [sic] once existed is now to be found only in the cherished memories of those who witnessed it first hand," a local writer noted in 1973. "A severe reduction in the availability of habitat and heavy shooting pressures have caused the change." Local residents also recalled some of the uglier features of the new reservoir. Many resorts in the valley were burned and little effort was made to clear the valley of standing timber before it was flooded. As a result, skeletal trees rose out of the lake and debris clogged its shores for many years. "They too are now gone," the same writer observed, "yet vivid memories of Big Meadows still remain in the minds of those who knew this picturesque corner of the Feather River Country."⁴⁷

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



Flume near Sunflower Flat, 1933. (Source: Negative #162.1, Historic Photograph Collection, LAVO).

Company. This company was purchased in turn by the Northern California Power Company.⁴⁸

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.⁴⁹

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 superheated ore and the molten metal was tapped off at regular intervals. The key to this process was cheap electrical energy supplied by waterpower.⁵⁰ Manzanita Creek was one of many sites that the Northern California Power Company sought to develop for hydroelec-

tric 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.⁵¹

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.⁵²

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 as home to a "forest primeval, the greatest stand of pine and sugar pine that the world has ever known."⁵³ 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.⁵⁴ Harvest of what forester William Hodges called the "Sierra Belt" followed a predictable regional pattern, beginning in the 1850s with small-scale local use of the most-easily accessible timber, evolving to consolidated land ownership and capital-intensive production as technology

improved, as harvest volumes increased, and as the range of operation expanded in response to the demands of more-distant markets. Hodges wrote:

Lumbering in the Sierra timber belt began early in the [Eighteen] fifties with the hewing of logs and splitting of sugar pine shakes by the settlers and the cutting of mining timbers along the foothills. Water-power mills, running “up and down”, or small circular saws, were soon introduced and began cutting small quantities of lumber for local use. This early cutting was insignificant, tho increasing and extending rapidly to keep pace with the growth in population and the development of mining and farming towns. Commercial lumbering to supply the general market necessarily awaited the construction of the transcontinental lines and the extension of the California roads to points from which the timber would be accessible. It began 30 years ago along the route of the Southern Pacific across the Sierras, but in the [Sierra] Region as a whole has been confined to the last 15 years. Within that period, the industry has tended steadily to centralize in large, well-capitalized concerns. The country in the main is rough and inaccessible. . . . Natural means of transportation, as drivable streams, are lacking. Under these conditions a large investment is required at the outset to develop cheap transportation; and to realize upon such an investment, the whole operation must be conducted upon a proportionately large scale. This requires a large, well-equipped plant, with the most advanced methods of logging and manufacture.⁵⁵

This regional pattern is mimicked in the Lassen region.

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 proposals to add timber stands north of the park were rejected as “too costly.”⁵⁶ Extensively logged areas within the park, that may contain archaeological 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 1929.⁵⁷ (In 1925, USFS Forest Examiner Weislander described this area as “excellent timber producing lands which have been denuded of their timber.”⁵⁸) Small-scale mid-century “gippo” logging and shake and log harvest by area settlers for their own use or a local market may be found throughout the forested regions of the park. However, despite the paucity of logged lands within the park, and of cultural resources associated with the theme, the impact of the timber industry on the history of the park is significant, with links to both early settlement and also early conservation efforts.⁵⁹

Milling

The tie between the gold and embryonic timber industries was direct and symbiotic. Miners and the boom communities that grew around them⁶⁰ 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.⁶¹ 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.”⁶²) These mills included the Klotz Sawmill and Sash and Door Factory, established a mile east of Shingletown, in the late 1850s.⁶³

Through the 1870s, the Klotz and other mills supplied timber primarily to gold mining communities and other local markets. With completion of the Southern Pacific Railroad between Sacramento and 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.⁶⁴

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 with 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.⁶⁵

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.

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. (The illegal camp proved

easily removed.)⁶⁶ 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 this winter and wait ‘til spring before they went home.” “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.⁶⁷

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 lumber, shingles, door frames and window sashes; or was freighted or flumed to the Sacramento River and then hauled by barge or train to more-distant markets (see Transportation Improvements, above). 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 floor.⁶⁸

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 on and near future parklands. 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 1887 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.⁶⁹

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.”⁷⁰ Standard construction specifications included 18 inch bottom width, 20 inch sloping sides, 42 inch top width. An elevation drop of 27 feet 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 foot sections, called boxes, put in place after trestlework 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 logjam. In total, flume construction required an estimated 130,000 board feet of lumber per mile.⁷¹

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.)⁷²

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 feet). 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. These wagons were crude, and built on site: long-time local resident and historian Beulah Johnson described 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

Harvest, 1906

In this mountain region, the logging season is usually limited to six months and the work must be conducted on a very large scale to make a sufficient run of logs to make the year’s operation successful. Steam logging, by donkey engine and cable, is the method usually employed. Crews of fallers go thru the timber first, dropping the trees, clearing off limbs, and “bucking” the trunk into log lengths. Light donkey engines, carrying 1,000 feet of 7/8-inch cable, snake the logs over the unbroken ground to the yards at the end of the chutes. The latter are built in trough fashion by spiking two logs side by side on short stringers and beveling the inner surfaces. At the yards, the logs are chained together in strings and hauled in over the greased chutes to the landings on the railroad. Powerful “bull” donkeys, carrying three to four thousand feet of heavy cable, are used for this purpose.

Source: William C. Hodge, Jr., Assistant Forest Inspector, Forest Service, Forest Conditions in the Sierras, no date (ca. 1906), pp. 83-84. Pacific SW Region Selected Historical Files, 1906-59, NRHS 95-97-004, RG 95 San Bruno.

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.⁷³

Four inventions significantly altered this slow and laborious process. 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 the 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. Despite these improvements, the steam donkey could be operated economically (with profits exceeding costs) only in densely timbered flat areas.⁷⁴

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.⁷⁵

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.⁷⁶

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 described 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-weighted 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.⁷⁷

Whether acquired by lease, purchase, or contract, each invention demanded capital investment, as did construction of the flumes, roads, and railroads needed 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 reported. “He was buying the mills out for the timber.”⁷⁸

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.⁷⁹

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.⁸⁰

These large-scale sales occurred only at the periphery of the isolated, high-elevation, and steep 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 percent 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.”⁸¹

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.”⁸² 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.⁸³ 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 supplying the miners than in mining the streams.⁸⁴ 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.”⁸⁵ 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 graze: 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.⁸⁶ Additional economic enterprises including flour and lumber

mills, located in the mountains near sources of water power.⁸⁷

Those who ran stock in the high elevation meadows included those pioneer settlers who preempted or 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.”⁸⁸ 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.⁸⁹ 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 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.⁹⁰

Sheepmen and cattlemen thus composed the one economic group that found land later incorporated within the park suitable to their needs.⁹¹ This agricultural land use extended from ca. 1850 until Congress’s 1916 determination that recreation, conservation, and scientific discovery defined the land’s most beneficial use.⁹² (Please note that the following discussion concentrates on extended seasonal land use. Stock drives are addressed in Chapter Three.)

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.”⁹³ 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

Cattle Drives of the ‘80s and ‘90s

Depending on the spring weather but usually about the first of May preparations began for the first drive. Several days before the date set, the men would start gathering the cattle in from the open range and would put them in the big pasture. When all was ready the evening before the drive they would bring the cattle from the big pasture to the corrals and one of the small pastures near the house and barns, so they could be ready to start on the trip by four o’clock in the morning. In planning the drive corral accommodations had to be taken into consideration. Three hundred or even a few less were preferred, so as not to crowd them and possibly cause a break out. With the first drive cows with small calves were left for a later drive. Everyone was up by three o’clock, or earlier, the next morning to feed the horses and eat a substantial breakfast. Then everything ready, including midday lunches for the men, they were on their way by four o’clock.

Source: Grace Grattan Masterson, “Cattle Drives of the Eighties and Nineties,” *The Covered Wagon* (Redding: Shasta County Historical Society, 1963), p. 18.

past Chester and the third trail crossed Paynes creek at Dales and continued through Viola and Manzanita Chutes.⁹⁴

By 1870 an estimated 76 ranchers ran cattle and sheep on land later incorporated within the Lassen Peak Forest Reserve.⁹⁵

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.⁹⁶

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 production in the whole United States."⁹⁷ 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-use 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.⁹⁸

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,⁹⁹ 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.¹⁰⁰

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

Manzanita Chute

With thousands of sheep on the trail, there were places where a "traffic jam" would develop and the herders spent many an hour figuring out ways and means to get through a pass ahead of other outfits. One bad bottle neck was from Deer Flat into Manzanita Chutes. Sometimes there would be 8 or 10 outfits camped overnight at the flats and each outfit would try to be the first one to head through the pass the next morning. One favorite stunt was to get the jump on the others was to have the men get up about 2:30 a.m. To avoid attracting the attention of others by a campfire. They would go without breakfast. They would let their band of sheep out of a corral and by the time the others had discovered what had happened, the outfit would be well on its way into the narrow canyon. The cook wagon would come along later and the men would grab a cup of coffee on the run.

Source: "This Business of Giving Sheep a Ride In Auto is Really Quite a Business," *Red Bluff Daily News*, Red Bluff, California, May 9, 1941. Clipping in History File, LAVO Collection, Western Archeological and Conservation Center.

season, approximately April 15. After lambing, the bands were run on spring range until the May and June shearing season.¹⁰¹

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: the costs of a high lamb mortality rate at least in part balanced 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.¹⁰²

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 hired herders who spent the summers trailing the bands to forage, living in canvas-topped sheep-wagons. 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.¹⁰³

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.

Cattle Industry

In 1966 the Lassen County Cattlemen’s Association and the Lassen County Cowbells proclaimed the Lassen Peak region “Cow Country” and presented a narrative history of 100

“It was a Life”: Tending Sheep in Plumas Country

(Basque Sheepman Jean Uhart describes his experience on the Plumas National Forest, just south of Lassen Peak, in the 1930s. The details of the life Uhart describes had changed little in the preceding decades and mirrored those of the sheepmen who ran stock on the meadows flanking Lassen Peak prior to creation of the National Park.

In 1930, Uhart, the youngest of nine children, emigrated from Saint-Jean-Pied-du-Port in the French Pyrennes. He was 19 years old and spoke no English. From New York to Reno, Uhart traveled in company with 15 compatriots, all bound for the West’s sheep country. Like his companions, Uhart intended not to stay but rather to “make a little money...and go back and buy a big farm.” The dream was founded on the experiences of his childhood: “A lot of men in my village in the old country did that...Maybe ten or twenty men [in a village of ~500] had returned from eight or ten years in America with pretty good money that they earned here and they bought nice farms there. My dream was always the same.”

From Reno, Uhart proceeded to his uncle’s Carson City ranch where he was placed in charge of a band of 2000 sheep. The band wintered in the valleys near Virginia City in western Nevada and then, after lambing and spring shearing, was driven in May to the Plumas forest just south of Lassen Peak. Uhart writes:

Two guys took one band of sheep and three or four dogs. We enjoyed it. We were young! The Plumas range was good because it had a lot of different plants. The sheep ate buckbrush and sweet corn. They loved those things. The Plumas also had meadows. They liked that, too! There’s water all over the Plumas range. Everywhere we went we could water the sheep at running water. When there were a lot of sheep all over, they kept the country open...We always lost some sheep. Coyotes killed some. Bears killed some. We lost a few to poisonous plants [milkweed and black laurel]. We lost some sheep all the time and we expected to.

In August we would ship the lambs. We would take them to Blairsden. We loaded the lambs in the train and they were sent to Los Angeles, San Francisco, all over. Then we would take the ewes back to graze in the mountains until October. It was a life.

Source: Jean Uhart, “Basque Sheepman of the Plumas Range, *Plumas Memories* (Quincy: The Plumas County Source Historical Society, June 1984), pp. 23-25.

CATTLE DRIVES OVER THE CAMPBELL TRAIL FROM THE NORTH SACRAMENTO VALLEY TO THE SUMMER PASTURES IN BUTTE, TEHAMA, LASSEN AND PLUMAS COUNTIES By George U. Roney On file at Plumas County Museum Quincy, California		
Ranchers	Date	Routes and Areas of Use
Baccala, Calvin and Victor	Not Available	Pine Creek to Soldier Meadows west of Chester, Plumas County
Bell, H.T. (Tommy)	1929-1950	Chico to Deer Creek Meadows, Tehama County, Swain Meadows until 1978; North of Westwood, Lassen County
Bennett, J. Archie and Houseman, Bob	1908-1913	North to Clover Valley, North of Westwood, Lassen
Bennet, J. "Archie"	1913-1944	Pine Creek to Clover Valley North of Westwood, Lassen County
Faniani, Frank and Fish, Vernon	1920-1930	Pentz and Durham to Faniani Meadows, West of Chester, Plumas County
Faniani, John	1899-early 1911	Pine Creek to Faniani Meadow, West of Chester, Plumas County
Franks, John and Lester	1940-1980	Pine Creek to Butte Creek House, Humbug Road, Butte County
Griffith, Gus and Barnes, Frank	N/A	North Chico to Swain Meadows, North of Westwood, Lassen County
Hope, Norman and Roney "Jock"	1928-1931	Pine Creek to Butte Valley Southwest of Chester, Plumas County
Keefer, Will	ca.: 1925	Pine Creek to Deer Creek Canyon, Tehama County Cabin just West of what is known as the transfer, North of the boy scout camp, Butte County
Keefer, Will	Late 1920s	Pine Creek to Butte Valley, Southwest of Chester, Plumas County
Lucas, Charles "Yank"	N/A	Chico to Butte Meadows, Butte County
Parker Brothers	N/A	Rock Creek to Chico Canyon, South of Lomo, Butte County
Roney Brothers	N/A	Pine Creek to Clover Valley, North of Westwood, Lassen County
Roney Land and Cattle	1944-1968	Pine Creek to Clover Valley, Eagle Lake; North of Westwood, Lassen County; trucked cattle after 1973
Shuler, J.D. "Jube"	1945-1993	Cohasset to Colby, Chico Meadows and Butte Meadows Butte County
Salem, G.O. and Nelson	1940-1947	Chico to Chester, Plumas County
Stephenson, Lee	1930	Pine Creek to Butte Creek House, Butte County
Stephens, Sam	1930-1970	Singer Creek to Stephens Camp north of Silver Lake north of Westwood, Lassen County
Stover, Jake	N/A	Cohasset to Chester, Plumas County
Thomasson, Nate and Vern	N/A	Rock Creek to Chico Meadow, Butte County
Appersons, Jack and Sons	N/A	Vina to Campbellville, Butte County
McKinzie, Jack and Abner	N/A	Paynes Creek to Mountain Meadows and Pine Creek Flat (Bogard), Lassen County

years of animal husbandry in the winter-range valleys and summer-range mountain meadows.¹⁰⁴ 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.¹⁰⁵

Rawson & Grawson'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.¹⁰⁶ 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 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. 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. With the 1916 designation of the park, all USFS grazing leases were phased out and NPS rangers initiated a concerted effort to prevent cattle trespass on parklands (see Chapter Nine).

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 Dersch cabins and corral within Section 17 T31N R5E; a second Dersch cabin 2.5 miles south near a grassy flat within Section 29; yet a third Dersch cabin and corral complex along a “wet meadow” six miles south of the first within Section 33; a corral at Soap Lake along the “Emigrant Road” (Nobles Trail); a cabin on unpatented timbered land at Manzanita Creek, within Section 28 T31N R4E; and numerous trails. Surrounding wild lands were described variously as “ROCKY AND PRECIPITOUS MOUNTAINS”; “deep rocky canyons”; “heavily timbered.”¹⁰⁷

In their testimony to General Land Office officials, all who patented public domain within or immediately adjacent to the future park testified that the land was not suitable to cultivation on account of “the frost” that lingered into June and revisited as early as August. Moreover, snowfall was extreme – 15 feet proving the norm – driving ranchmen and their stock to the lowland valleys every winter and defining a clear



McCumber Flat 1887.

(Source: Negative #301, Historic Photograph Collection, LAVO.)

Native Materials: Foot of the Mountains Station, Eastern Shasta County

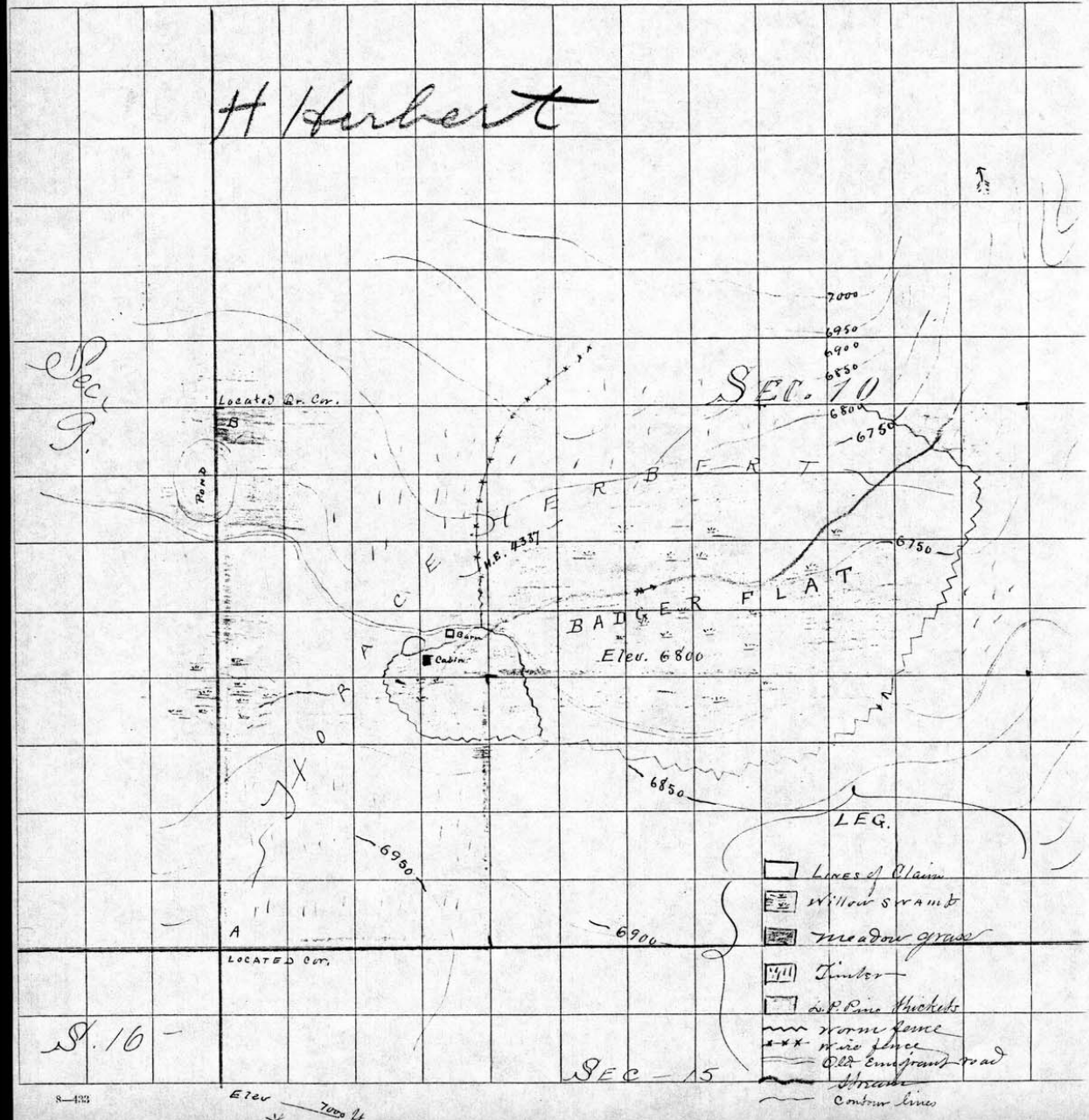
[Built by Billy Smith in 1858,] the entire building was made of sugar pine, without a knot in any of the material. The original shingle roof lasted seventy years before repairs were made on it. The lumber and shingles came from Klotz's shingle mill at Shingletown. Klotz had married Smith's oldest daughter. The outside of the station building was finished in ten-inch tongue and groove boards laid horizontally. The inside walls were also laid horizontally, but were made of different width boards, from ten inches to forty inches wide. Floors were of ten-inch tongue and groove boards...All the big timbers in the house were mortised together and pinned. Smith gave a man a span of mules for hand hewing the bigger timbers for the house. The rest of the lumber and the shingles came from Klotz's shingle mill. What nails were used in the building were made right on the spot.

Source: Carmen Shuler, “George Fredrick and Elizabeth Schuler and Early Days in Eastern Shasta County,” *The Covered Wagon* (Redding: Shasta County Historical Society, 1962), p. 26.

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

MAP SHEET

No. _____ *Lassen Peak* Forest Reserve.
Division _____ District _____, Block _____
T. *31* N., R. *5* E., Mt. *D* M., Section _____, Quarter _____
Mapped by _____ Scale: *8* inches = 1 mile.



USFS map of Horace Herbert Claim. (Source: Folder U: Adjustments, Claims, Acc 95-93-007, Alpha Series 1901-1953, Lassen National Forest, RG 95, NARA San Bruno.)

geographic separation between winter and summer range.¹⁰⁸ 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.¹⁰⁹ 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.

Improvements associated with the claims reflect both 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. (Similar fencing is found, for example, in the high desert country of southern Utah and northern Arizona where juniper and piñon pine are stacked in a style known regionally as “Utah Fence.”) Where timber volume was inadequate, rail fences were constructed.¹¹⁰

Review of serial patent files for successfully patented claims within the boundaries of today’s national park reveals 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 to 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.¹¹¹

Seventy-one year old Horace Herbert’s Forest Homestead entry, filed in 1907 on land six miles northeast of Elmore’s claim, was similarly developed. Herbert’s 160 acres within the Lassen Forest Reserve straddled the historic Noble 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 feet) constructed of



Lost Creek Ranch before mudflow (pre 1914).

(Source: Negative #151. Historic Photograph Collection, LAVO.)

lodgepole pine logs; a small shed, sided and roofed with wood shakes; a small house (12 x 16 feet) 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.”¹¹²

While patent records for Herbert and Elmore reveal initial development, a 1947 interview with Henrietta Klotz Hall of Lost Camp, within the Lost Creek drainage just north of the park near the Emigrant Road, provides detailed information on a sustained operation as developed over time.¹¹³ Located adjacent to one of the primary travel corridors in the region, the Hall’s Lost Camp Ranch served as both “a stopping place for trail travelers and stockmen” and as home ranch for the Hall’s stockraising and dairy operation. The site had been previously inhabited by Andrew J. Skinner who claimed 160 acres within the N2NE, SWNE, NWSE of Section 28, T32N R4E ca. 1885 (title was granted in 1890) and who constructed a simple log cabin during his tenure; Mrs. Hall remembered “Lost Camp was known for a number of years as Skinner’s Place.” W. Green Hall purchased Skinner’s claim in 1890 and sold to Redwood Lumber Company in 1914 (consistent with the regional pattern of timber company land consolidation.). During the period of their ownership, the Halls rented cattle and sheep corrals for 50 cents per night and provided tent space and meals for weary herders. Sweet butter, made in a revolving churn barrel run by a water wheel off the irrigation ditch, was sold both to travelers and to the mills in nearby Shingletown, for 25 cents per pound. In addition to dairy cattle,

the Halls ran 700 head of beef cattle at Hall’s Flat every summer. An estimated 75 to 100 acres of irrigated meadow were planted to timothy hay and red clover (with the average yield of 75 tons ultimately stored in one of two hay barns). Additional crops included truck vegetables and potatoes (ultimately stored in the potato house). In 1891, presumably after briefly inhabiting Skinner’s cabin, William Hall and his sons Willard and Harry constructed a new home of hewn lodgepole logs. Sugar-pine shakes covered the roof and the exterior walls while sugar-pine boards hauled from the Vilas’ Viola mill covered the interior walls. Volcanic tuff from Logan Meadows on Lost Creek provided stone for the massive fireplace. The ranch was covered by the Lost Creek mud flow of 1915 (see Chapter Seven).¹¹⁴

Forest Service reports on the merits (and demerits) of Forest Homestead Claims (see Chapter Six) also testify 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, “althou 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.”)¹¹⁵ Though many of these cancelled claims never left the public domain, vestiges of relinquished improvements may still be found.

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.¹¹⁶

The name “Drakesbad” – title to a historic homestead in the southeast corner of the park, at the head of the Warner Valley and on the edge of the Devil’s kitchen – conveys not only the park’s agricultural past but also its transition to recreational use. In 1884, Mr. Edward R. Drake filed a homestead claim for 160 acres within the S2SE, S2SW of Section 21 T30N R5E, at the head of the Warner Valley and at the heart of the thermal area known as the Devil’s Kitchen. In 1885, Drake filed claim to an additional 160 acres within the NWSE, N2SW, SWSW of Section 22, land incorporating a large natural meadow. Receipt of patent proved slow as Drake found it “extremely difficult to obtain the attendance of witnesses for the reason that his nearest neighbor resides about 17 miles away.” By 1894, however, Drake had improved the rough wagon road, easing passage along those 17 miles, and had successfully secured the help of witness L. W. Bunnell of Prattville. Bunnell described grazing land, located at too high an elevation to allow cultivation beyond the 20 acres planted to timothy hay; a dwelling house, a barn, and “fencing surrounding

Bear Creek, 1870

In a 1971 interview son of a rancher Alex Thatcher described life at a “summer place” near Lassen Peak. His mother, Catherine Harrington Thatcher, came to California in 1854 by way of the Lassen Trail destined, with her family, for a “squatter’s right” on Bear Creek. In 1856 she married neighboring rancher Ezekial Thatcher. “Of this union,” tells Alex, “eleven children were born.” Catherine Thatcher tended house and these numerous children. Ezekial Thatcher worked what work he could, “farm[ing] and team[ing], hauling lumber from Shingletown to Shasta...and rocks from a quarry on Dry Creek.” The children’s lives were only slightly less busy:

we had to get up at three o’clock in the morning during the spring and summer while it was plowing time. We had to plow before we went to school and also after school until it was too late to see anymore...The lights we had to study by were made by putting some grease in a pan with a rag in it and then setting the rag on fire. Later we had candles made of beeswax and tallow moulded [sic] in a candle mould. We children had to help to make the candles in the evenings. Mother carded the wool for our clothing from sheep we raised. I was ten or twelve years old before I had any shoes. Father bought them from John Wheatly who kept a store at Millville.

Adding to the family’s funds, Alex Thatcher and his siblings “caught lots of quails in traps” and sold them for a dollar a dozen in Red Bluff: “the stage driver sold them for us and would sell all we could get.” Childhood summers were spent in company with neighbor boy S. N. Witherow, herding sheep for Ezekial Thatcher “back of Summit Lake and Kings Creek...Fred Dersch had charge of a bunch of sheep at about the same place as ours.”

Source: Interview with Alex Thatcher, compiled by May H. Southern, *The Covered Wagon* (Redding: Shasta County Historical Society, 1971), pp. 27-29.

the land [planted to hay]"; and snow sufficiently deep to "drive [Drake] away for two or three months every winter." Drake echoed Brunell's testimony: "Every winter during deep snows and storms I come to Big Meadows with my stock to feed."¹¹⁷

Ultimately, Drake owned 320 acres, secured through purchase and government patent. From this base, Strong reports, Drake "herded livestock, acted as a guide, and provided limited services to the occasional campers he allowed on his property."¹¹⁸ These campers included ailing Susanville teacher Alexander Sifford who in 1900 visited Drake's ranch in hopes of finding a cure in the mineral waters of the hot springs. Of his journey along the "old Red Bluff road" to Chester Sifford later remembered holes two feet deep and rocks as big as washtubs: "Over this rough road, the courageous pioneer prodded and goaded his bony oxen...loaded with freight." At Chester, Sifford found respite at Bert Johnson's, "a stopping place for teamsters, travelers, and tourists." From Chester to Drake's, Sifford "fought his way through brush and bogs" along a "dim" route. Settlement was limited to the Guscetti dairy – "an old log cabin and a lot of milk pans out on a rack" – and the "Kelly Place" – "half a score of boys and girls, about evenly divided, with their mother, starting a home in the wilderness."¹¹⁹

Sifford continued west three miles beyond the Kelly's, "through brush and trees, fallen logs, and up the hills," until he came to two "rude buildings...on the edge of a small meadow mostly covered with willow": Drake's Place. The two rude buildings included Drake's small log cabin and a larger log building constructed as a hotel and as yet unfinished. Hot Spring Valley Creek ran through the meadow providing Drake, a fisherman, "with much pleasure as well as part of his food supply." Drake's "old sorrel horse" Tyler grazed in the near meadow and cattle grazed in the more distant meadows nearer Willow Lake.¹²⁰

At the conclusion of his week-long sojourn, Sifford secured an option for purchase. He and his family returned the next summer, intent on making a living not by raising livestock but by developing a rustic tourist resort – "Drakes' Baths," or Drakesbad. Sifford advertised the redemptive

powers of the hot springs, the splendor of Lassen Peak, the beauty of the forests, and the enveloping quiet. Increasingly, the physical and spiritual redemption offered by mineral springs, mountain vistas, and mountain trails defined the area's principal economic value. Recreational use and development, and conservation measures, continued apace.



Entrance Sign to Drakesbad, ca. 1920.

(Source: Reprinted in Strong, *Footprints in Time*, p. 72. Permission for use pending.)

Chapter Five Notes

¹ 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.

² Dittmar, *Shasta County California*, pp. 5-7.

³ Patricia Nelson Limerick, *The Legacy of Conquest: The Unbroken Past of the American West* (New York: W.W. Norton and Company, 1987), p. 55.

⁴ Dated 1800, 1830 (extended in 1832, 1834, 1838, and 1840), 1841, 1862, 1878. See Roy M. Robbins, *Our Landed Heritage. The Public Domain 1776-1936* (Lincoln: University of Nebraska Press, 1962) and Paul Gates, *History of Public Land Law Development* (Washington, D.C.: Zenger Publishing Company [for the Public Land Law Review Commission], 1968, for detailed descriptions of the preemption acts and the public debate accompanying their passage.

⁵ Editor of the *National Advocate*, quoted in Robbins, *Our Landed Heritage*, p. 43.

⁶ Quoted in Robbins, *Our Landed Heritage*, p. 40.

⁷ *The Mechanics Free Press*, quoted in Robbins, *Our Landed Heritage*, pp. 43-44.

⁸ Robbins, *Our Landed Heritage. The Public Domain 1776-1936*, pp. 40-44, 238.

⁹ Horace Greeley quoted in Robbins, *Our Landed Heritage*, p. 206.

¹⁰ Cyrus Woodman quoted in Gates, *History of Public Land Law Development*, p. 392 fn.

¹¹ Gates, *History of Public Land Law Development*, p. 394.

¹² Quoted in Gates, *History of Public Land Law Development*, p. 418.

¹³ Cited in Gates, *History of Public Land Law*, p. 489.

¹⁴ Rodman W. Paul, *Mining Frontiers of the Far West* (New York: Histories of the American Frontier Series, 1963), p. 21.

¹⁵ 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.

¹⁶ 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.

¹⁷ 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.

¹⁸ George Sandow, surveyor, Surveyor General's Office, USGS Department of the Interior, map of T31N R4E; T31N R5E; T30N R4E; T30N R5E, 1881-1883.

¹⁹ John R. Signor, *Rails in the Shadow of Mt. Shasta* (Burbank: Howell-North Books, 1982), pp. 2 – 16.

²⁰ David F. Myrick. *Railroads of Nevada and Eastern California. Vol. One: the Northern Roads* (Berkeley: Howell-North Books, 1962), pp. 331, 352-354, 357-358. The Nevada California Oregon Railway assumed control of the Sierra Valley in 1901 and purchased the line in 1915.

²¹ Myrick, *Railroads of Nevada and Eastern California. Vol. One: the Northern Roads*, pp. 317-319.

²² Horace M. Albright, Director, to H. M. Adams, November 12, 1931, Unaccessioned Historic Material, LAVO, p. 1.

²³ Myrick, *Railroads of Nevada and Eastern California. Vol. One: the Northern Roads*, pp. 317, 356.

- ²⁴ Ernest K. Murray, "The Almanor Story," *Plumas Memories*, No. 9 (July 1962), p. 1.
- ²⁵ Walton Bean, *California: An Interpretive History*, second ed. (New York: McGraw-Hill Book Company, 1973), pp. 117-119.
- ²⁶ Paul, *Mining Frontiers of the Far West, 1848-1880*, p. 31.
- ²⁷ Charles Volney Averill, "Mineral Resources of Shasta County," *California Journal of Mines and Geology*, Vol. 35, No. 1 (January 1939), p. 173.
- ²⁸ Paul E. Schulz, *Stories of Lassen's Place Names* (Mineral, California: Lassen Volcanic National Park, 1949), p. 55.
- ²⁹ William Haynes, *The Stone that Burns: The Story of the American Sulphur Industry* (New York: D. Van Nostrand Co., Inc., 1942), pp. 71-79; James W. Vernon, "Sulfur," in *Mineral Commodities of California*, Bulletin 156 (San Francisco: California Division of Mines, 1950), pp. 273-275.
- ³⁰ Vernon, "Sulfur," p. 274.
- ³¹ Douglas H. Strong, "Supan's Sulphur Works," *The Covered Wagon* (Redding: Shasta Historical Society, 1973), pp. 28-29.
- ³² Haynes, *The Stone that Burns*, pp. 75-76.
- ³³ "Non-Mineral Affidavit," October 15, 1892, and "Final Certificate No. 2208," October 12, 1900, National Archives, Record Group 49, Land Entry Files, California, Shasta Land Office, Box 1474, File 2208.
- ³⁴ "Plat of the Exterior Boundaries of Lassen Volcanic National Park and Alienated Lands Therein," General Land Office, 1923.
- ³⁵ Strong, "Supan's Sulphur Works," pp. 30-33.
- ³⁶ "Township No. 30 North, Range No. 4 East, Mount Diablo Meridian," General Land Office Plat, 1884.
- ³⁷ Scott Lawson to Gene Serr, February 4, 1991, Plumas County Museum Archives, Dutch Hill Mine File.
- ³⁸ Errol Mac Boyle, *Mines and Mineral Resources of Plumas County* (Sacramento: California State Printing Office, 1920), p. 3.
- ³⁹ Gene Serr, "The Mining Ditch in Lassen Park," unpublished paper in Plumas County Museum Archives, Dutch Hill Mine File.
- ⁴⁰ 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*, (Washington: Government Printing Office, 1875), p. 159.
- ⁴¹ Quoted in Gene Serr, "The Mining Ditch in Lassen Park."
- ⁴² Gene Serr, "The Dutch Hill Ditch," Plumas County Museum Archives, Dutch Hill Mine File.
- ⁴³ Gene Serr, "The Dutch Hill Ditch."
- ⁴⁴ Newspaper clippings, no date, Plumas County Museum, Big Meadows vertical file.
- ⁴⁵ Jessica Teisch, "The Drowning of Big Meadows: Nature's Managers in Progressive-Era California," *Environmental History*, Vol. 4, No. 1 (January 1999), pp. 32-51.
- ⁴⁶ Teisch, "The Drowning of Big Meadows," p. 40.
- ⁴⁷ "Almanor – End of an Era," *Plumas Memories*, No. 38 (July 1973), p. 38.
- ⁴⁸ 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.
- ⁴⁹ Strong, *Footprints in Time: A History of Lassen Volcanic National Park*, p. 30.

⁵⁰ Dittmar, *Shasta County California*, pp. 45-46.

⁵¹ Milford Interview.

⁵² Strong, *Footprints in Time: A History of Lassen Volcanic National Park*, p. 30.

⁵³ 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.

⁵⁴ 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.

⁵⁵ William C. Hodge, Jr., Assistant Forest Inspector, Forest Service, Forest Conditions in the Sierras, no date (ca. 1906), p. 1. Pacific SW Region Selected Historical Files, 1906-59, NRHS 95-97-004, RG 95 San Bruno.

⁵⁶ 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 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.

⁵⁷ To date (2002), no timber-related resources have been documented within the park.

⁵⁸ Weislander, "Report of Forest Examiner Weislander of the U.S. Forest Service, 1925," File 602-01.1, LAVO Collection, Western Archeological and Conservation Center (WACC), n.d. (1925), p. 10.

⁵⁹ Boundary Adjustment Committee, "Proposed Boundry [sic] Adjustments for Lassen Volcanic National Park," September 1, 1939. Unaccessioned Historic Material, LAVO, no page.

⁶⁰ 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.

⁶¹ Shuford (1957), 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.

⁶² 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.

⁶³ Mrs. Henrietta Klotz Hall to James V. Lloyd, Superintendent Lassen Volcano National Park, January 28, 1946, File: History, LAVO Collection, WACC.

⁶⁴ Strong, *These Happy Grounds. A History of the Lassen Region*, p. 22.

⁶⁵ Bessie Haynes Bosworth, "The Story of Richard Haynes," *The Covered Wagon* (Redding: Shasta County Historical Society, 1966), pp. 46-48.

⁶⁶ L. A. Barrett, *Leaves from a Forest Ranger's Diary* (U.S. Department of Agriculture, Forest Service, Plumas National Forest, California), p. 37.

⁶⁷ 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.

⁶⁸ No flumes are known to have been constructed within the boundaries of today's national park.

⁶⁹ 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.

⁷⁰ Thomas Thatcher, interviewed by anonymous, ca. 1975. Transcript on file at Meriam Library Special Collections, California State University, Chico, California

⁷¹ "Red Bluff Woman Recalls Flume Days," *Daily News*, March 24, 1987, Vertical File: Lumbering, Tehama County Public Library, Red Bluff, California.

⁷² "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.

⁷³ Beulah Johnson, *Chips and Sawdust: A History of Sawmills, the equipment they used and the towns that built around them* (Shasta Historical Society, 1978).

⁷⁴ Hamilton and Neri, "History and Prehistory of the Latour Demonstration State Forest, Shasta County, California", p. 36

⁷⁵ Hamilton and Neri, "History and Prehistory of the Latour Demonstration State Forest, Shasta County, California", p. 41.

⁷⁶ Hamilton and Neri, "History and Prehistory of the Latour Demonstration State Forest, Shasta County, California", p. 41

⁷⁷ Thomas Thatcher, interviewed by anonymous, ca. 1975. Transcript on file at Meriam Library Special Collections, California State University, Chico, California.

⁷⁸ Thatcher, interviewed by anonymous, ca. 1975.

⁷⁹ Hamilton and Neri, "History and Prehistory of the Latour Demonstration State Forest, Shasta County, California", p. 45; Johnson, "Chips and Sawdust"; Thomas Thatcher, interviewed by anonymous, ca. 1975; A. E. Wieslander, "California Forester: Mapper of Wildland Vegetation and Soils," oral history interview conducted by Ann Lage, Regional Oral History Office, The Bancroft Library, University of California, Berkeley, 1985, p. 78.

⁸⁰ 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.

⁸¹ U.S. Congress, House, *Lassen Volcanic National Park*, 63rd Cong., 2d sess., Report 1021, 1914, pp. 8-9.

⁸² U.S. Congress, House, *Lassen Volcanic National Park*, 63rd Cong., 2d sess., Report 1021, 1914, p. 9.

⁸³ Marcene Bolton, "Stephen Return Hubbard," *The Covered Wagon* (Redding: Shasta County Historical Society, 1971), p. 43.

⁸⁴ Edward Norris Wentworth, *America's Sheep Trails. History. Personalities* (Ames, Iowa: The Iowa State College Press, 1948), p. 167.

⁸⁵ 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.

⁸⁶ 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.

⁸⁷ 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.

⁸⁸ 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.

⁸⁹ 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.

⁹⁰ Gertrude A. Steger to Harry Robinson, *Park Naturalist*, March 2, 1944 and March 13, 1944, History File, LAVO Collection, WACC.

⁹¹ Strong, *These Happy Grounds. A History of the Lassen Region*, p. 24.

⁹² U.S. Congress, House, *Lassen Volcanic National Park*, 63rd Cong., 2d sess., Report 1021, 1914, p. 9.

⁹³ Anne McNabb, "Tehama For Years Leading California Sheep County," *Tehama County Memories* (Red Bluff: Tehama County Historical Society, 1983), p. 70.

⁹⁴ "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.

⁹⁵ McNabb, "Tehama For Years Leading California Sheep County," p. 70.

⁹⁶ Edward N. Wentworth, *America's Sheep Trails*, p. 202.

⁹⁷ Edward N. Wentworth, *America's Sheep Trails*, p. 202.

⁹⁸ Glorianne Weigand, *Dusty Trails* (self published. Bend, Oregon: Maverick Publications, Inc., 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.

⁹⁹ 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.

¹⁰⁰ 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.

¹⁰¹ Wentworth, *America's Sheep Trails. History. Personalities*, pp. 408-427.

¹⁰² Wentworth, *America's Sheep Trails. History. Personalities*, pp. 408-427.

¹⁰³ Wentworth, *America's Sheep Trails. History. Personalities*, pp. 402-404.

¹⁰⁴ In 1864, Lassen County was carved out of Plumas and Shasta counties.

¹⁰⁵ "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. Defendent 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.”

¹⁰⁶ Harry B. Robinson, Park Naturalist, “Notes from an Interview with D. B. Lyon,” May 15, 1945, History File, LAVO Collection, WACC, p. 1.

¹⁰⁷ George Sandow, surveyor, Surveyor General’s Office, USGS Department of the Interior, map of T31N R4E; T31N R5E; T30N R4E; T30N R5E, 1881-1883.

¹⁰⁸ Weigand, *Dusty Trails*, pp. 10.

¹⁰⁹ See, for example, Homestead Entry 4337, Lassen Peak Reserve, 1907. Serial Patent Files, National Archives, Washington, D.C.

¹¹⁰ “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, p. 5.

¹¹¹ Gertrude A. Steger to Mr. [Harry] Robinson, March 13, 1944, History File, LAVO Collection, WACC, p. 2.

¹¹² Homestead Entry 4337, Lassen Peak Reserve, 1907, Serial Patent Files National Archives, Washington, D.C.; Schulz, *Stories of Lassen’s Place Names. The Origins and Meanings of the Place Names in Lassen Volcanic National Park with Relevant Annotations*, p. 2.

¹¹³ More specifically, the Hall Ranch was located within Section 28 or T32N R4E.

¹¹⁴ Mrs. Henrietta Klotz Hall, photograph annotations provided to LAVO park naturalist Robinson, February 28, 1947; Mrs. Henrietta Klotz Hall to James V. Lloyd, Superintendent Lassen Volcano National Park, January 28, 1947; Mr. and Mrs. Jesse Nedrow, interviewed by Park Naturalist Robinson, June 3, 1945, all in File: History, LAVO Collection, WACC, no page.

¹¹⁵ 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.

¹¹⁶ Schulz, *Stories of Lassen’s Place Names. The Origins and Meanings of the Place Names in Lassen Volcanic National Park with Relevant Annotations*, passim; Thomas Thatcher to Mrs. Steger, October 22, 1941, File: History, LAVO Collection, WACC.

¹¹⁷ Homestead Proof – Testimony of Claimant (Edward R. Drake), Homestead Entry 2206; Final Certificate 1842. Serial Patent Files, National Archives, Washington, D.C.

¹¹⁸ Strong, *These Happy Grounds. A History of the Lassen Region*, p. 24.

¹¹⁹ Alexander Sifford to Harry Robinson, Park Naturalist, February 14, 1946, File: History, LAVO Collection, WACC, pp. 1-4. Peter Guscetti homesteaded 160 acres within the SE of Section 30, T30N R6E in 1892 and received title to the claim two years later. James Kelly homesteaded 160 acres, also within Section 30 T30N R6E, in 1894 and his widow Anne Kelly received title in 1905. Serial Patent Files, NARA, College Park, Maryland.

¹²⁰ Sifford to Robinson, pp. 3-5.

Chapter Six

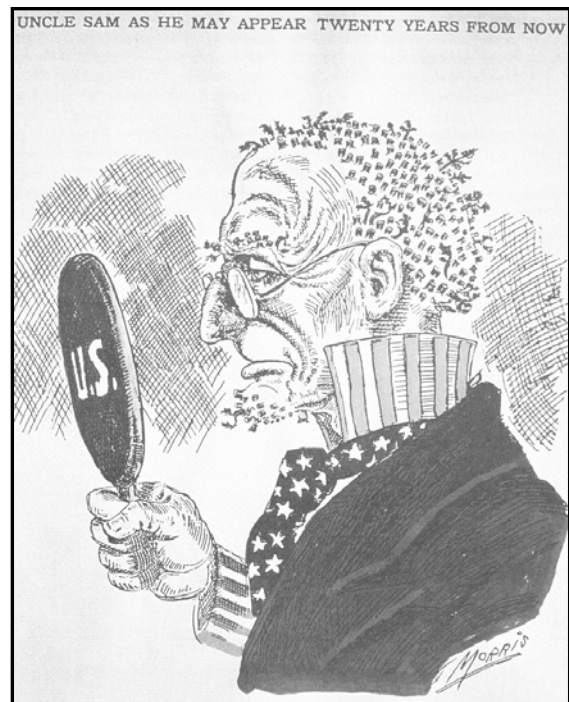
From Forest Reserve to National Park: Federal Management, 1905–1916



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.

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 as possible. Through the Homestead Act of 1862 and numerous 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. Conservationists 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 use of natural resources, leading to a stronger, more prosperous national economy.

National parks and national forests (originally called forest reserves) were major components of the new federal land management system in the West. Beginning with the Yellowstone Park Act of 1872, Congress created national parks through separate enabling acts. The national forest system developed differently. In the Forest Reserve Act of 1891, Congress granted the President authority to establish forest reserves. President Benjamin Harrison soon thereafter proclaimed the first forest reserves under the law, and President Grover Cleveland set aside much more land by the end of his second term in 1897. While this law marked an important turning point in federal land policy, the legislation was flawed by a lack of provisions for administration or protection of the forests from trespass and fire. As a result, the General Land Office (GLO) simply closed the reserves to entry or utilization of any kind, pending further



Morris, “Uncle Sam as he may appear twenty years from now.” (*Spokesman Review*, ca. 1908. Courtesy of Gerald W. Williams, USDA Forest Service.)

congressional action. The withdrawal of these tracts from the public domain angered western stockmen, settlers, miners, and lumbermen and established a pattern of western opposition to forest reserves.¹

In 1897, Congress passed the Organic Administrative Act. The law stipulated that the purpose of forest reserves was to protect watersheds and lands that were chiefly valuable for sustained timber production. It exempted lands that were better suited for agricultural or mining purposes and it provided for the rudiments of administration. Gifford Pinchot, first chief of the U.S. Forest Service, later described this act as the second most important law in the history of American forestry, marking the “beginning of Government Forestry in the woods.”²

The Department of the Interior quickly issued regulations for the administration of forest reserves. The departmental regulations directed the commissioner of the GLO to appoint a forest supervisor for each reserve. The forest supervisor was responsible for hiring rangers and assigning these men to ranger districts. This early administration of the forests by the GLO had many shortcomings. The forest reserves were unsurveyed and there was much confusion about ranger-district boundaries. All personnel were overburdened with paperwork, which diverted them from more urgent tasks in the field. Moreover, the GLO’s use of the political patronage system led to the appointment of many incompetent or negligent administrators. The whole bureaucracy suffered from over-centralization, and a lack of appreciation in the nation’s capital for the frontier conditions that prevailed on the forest reserves.³

One of the GLO’s most persistent critics was Gifford Pinchot, chief of the Division of Forestry in the Department of Agriculture. Pinchot replaced Bernhard Fernow as head of the division in 1898. Fernow, a German, had stamped the research-oriented Forestry Division with the scientific methods of the German school of forestry. The aggressive new chief forester was not satisfied with the Division of Forestry’s traditional role as a research institution; he pushed for more involvement in the administration of

forest lands. Pinchot was convinced that American forestry must be adapted to a situation of resource abundance, substituting practical, extensive forestry methods for the intensive forestry practices that were being developed in Europe. Under Pinchot, forestry soon achieved bureau status, while its staff increased from 11 to 179, including 81 student assistants, by 1901.⁴ These young men, mostly educated in the new professional forestry schools, would later form a cadre for the U.S. Forest Service.

The chief forester’s second objective was to affect a transfer of the administration of all forest reserves from the GLO to his bureau. Under President Theodore Roosevelt’s administration, Pinchot’s Forestry Division regularly advised the GLO on the management and establishment of new forest reserves. Following the temporary withdrawal of forest lands in northern California in 1902, for example, Pinchot sent his grazing expert, Alfred F. Potter, to the region to examine the suitability of these lands for forest reserves. Potter reported on the Lassen Peak area together with areas that later became the Trinity, Modoc, Klamath, Shasta, Plumas, and Tahoe forests.⁵ Through such initiatives, Pinchot’s Forestry Division positioned itself to assume administration of all forest reserves. In 1905, Congress passed the necessary legislation. The Transfer Act of February 1, 1905 marked the beginning of the U.S. Forest Service. Jurisdiction over millions of acres of forested land were transferred from the Department of the Interior to the Department of Agriculture, and the Secretary of Agriculture was charged with the protection, administration, improvement, and expansion of forest reserves.⁶

Lassen Peak Forest Reserve

A. F. Potter produced his 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. The chaparral that tended to take hold in the burned

areas did not protect the watershed as well as the forest canopy did. 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.”⁷

Potter, a native of California who had successfully raised sheep in Arizona before joining the government service in 1901, understood the importance of grazing interests in the four counties surrounding Lassen Peak. At the time of his investigation, grazing was the main commercial use of the proposed reserve. 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 area on the way to other ranges. The snow pack lingered too long in the spring to permit farming. Despite a plentiful supply of timber, logging operations had not yet made any inroads within the proposed reserve, a response to the area’s isolation and the plentitude of more accessible timber elsewhere. The nearest sawmill was located at Lyonsville on a narrow-gauge line of the Sierra Lumber Company. Smaller sawmills operated in the Viola-Shingletown area. Potter estimated that the summer population of stockmen and pleasure seekers probably did not exceed 75 people.⁸

On June 2, 1905, President Theodore Roosevelt proclaimed the Lassen Peak Forest Reserve.⁹ 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 encompassing 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.

While many forest reserves saw a change of administration from the GLO to the Forest Service after the Transfer Act of 1905, the Lassen Peak Forest Reserve began under Forest Service jurisdiction. Louis A. Barrett was immediately appointed forest supervisor of the new reserve. Barrett had taken charge of the Santa Barbara Forest Reserve in southern California only months before on January 24, relieving the GLO forest



Ranger with heliograph, a communication device that used mirrors and the sun’s rays, 1912. (Source: USDA Forest Service, *USDA Forest Service: The First Century*, Washington, DC: Government Printing Office, 2000, p. 50.)

supervisor of his duty and taking over all records of the office. “The latter was a mighty small job,” Barrett wrote disparagingly, “as about all the records that I could find might easily have put in one shoe box.” Three months later, Barrett was reassigned as forest supervisor of the Plumas and Diamond Mountain forest reserves in northern California, with headquarters in Quincy. To these, the Lassen Peak Forest Reserve was added in June. The summer of 1905, Barrett was given a staff of two forest guards, R. W. Flourney and Orlando Hedrick, to patrol approximately 1.5 million acres. He began by making a 260-mile pack trip with Flourney and Hedrick around the reserve in the last week of June – “over poor roads, poorer trails and no trails at all, fully 60 miles of it being through brush fields.” Barrett held ranger examinations in Quincy on July 5 and

6, 1905, and by the winter of 1905-06 he had a staff of eight permanent rangers for the three forests. Initially, each ranger had to provide his own mount and living quarters, which generally consisted of a tent.¹⁰

On the Santa Barbara Forest Reserve, Barrett had served a largely urban local constituency that enthusiastically supported the idea of protecting watersheds and the timber supply. On the forest reserves in northern California, Barrett encountered a more hostile local sentiment that was characteristic of the Forest Service's early reception in the West. Stockmen in particular were accustomed to using the public domain without restriction and resented Forest Service administration. Not only were rangers at risk of violent confrontation with local forest users, the entire agency was threatened by fiscal strangulation at the hands of hostile western congressmen. In order to survive this political backlash, the Forest Service made a concerted effort to hire local men and to develop conservation measures that would assist rather than harm local economies. On many forests, for example, early development work focused on improving the range for stockmen. In some cases, rangers and cowboys shared quarters – rangers occupying a cabin in the summer and cowboys using it in the spring and fall.

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.¹¹ 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.¹² "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."¹³

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.¹⁴

In the early years, funds for improvements were so scarce that authorization to spend anything for new building construction had to come from the chief forester. Barrett's total operating expenses for the Lassen, Plumas, and Diamond Mountain forests in 1905, excluding salaries, amounted to \$595.35. When Barrett and his rangers wanted to build a ranger or lookout station, they had to scrounge the materials from existing buildings. Barrett recalled how he and his men built the Claremont lookout station, the first such building on the Plumas National Forest. The men appropriated the sawn lumber from old mining buildings located on the south slope of Claremont Peak. "Forest officers," Barrett wrote, "had to be good rustlers and pick up a board here and a window there."¹⁵

At the same time that Barrett and his rangers were instituting a system of grazing control, they were also trying to end illegal timber harvesting on the national forests. 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 involved the cutting of sugar pine to make wood shakes. Sometimes when the Forest Service chased these small timber operators off the forest, they appropriated their camps for their own use. Barrett described one such occurrence connected

with the construction of the Little Grizzly Ranger Station on the Plumas National Forest.

Ranger Chamberlain was the forest officer in charge of the northwest part of the Plumas Forest. He had no quarters but a tent, and very little equipment. And there was no money in those days to use to build ranger stations. One day in scouting around Chamberlain discovered a large "cache" of sugar pine shakes that had been cut in trespass on government land. When the discovery was made the trespasser was about to haul the shakes out of the woods and dispose of them. Chamberlain posted Government Property Notices on the shakes and then took up the trail of the shake maker. The latter apparently got word of this, so abandoned his camp and camp equipment, hurried down to Stirling City, and bought a ticket to Arizona. That was the last heard of this shake making trespasser. Chamberlain then contacted me and I rode over to the Longville region and looked over the seized property. In addition to about 20,000 shakes it included a tent, cook stove, cooking equipment and a lot of miscellaneous tools. Now a station building was badly needed here. So we cut some logs for the walls, roofed it with some of the seized shakes, and traded more of the shakes with a small sawmill operator for lumber, doors, windows, nails, etc., with which to complete the cabin. Most of the remainder of the shakes were used to build a "lean to" shelter for the ranger's pack and saddle horses. Then the ranger moved in. Therefore this first permanent station on the Plumas was built at no expense to the United States except for the ranger labor, and the value of the stumpage cut in trespass.¹⁶

While gippo loggers had little choice but to vacate the national forests, homesteaders were another matter. 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. From the Forest Service's standpoint, the law produced something of a land rush. Many rangers experienced a deluge of requests for surveys of so-called "June 11 claims." It became evident that the sizable number of claims threatened to preempt the Forest Service from securing good agricultural and pasture land for its own administrative sites; farsighted officials believed that the Forest Service must make its own

withdrawals in order to preserve the agency's ability to develop administrative sites in the future. Over the next several years, rangers were very busy not only investigating June 11 claims, but also recommending and surveying administrative site withdrawals for the government as well.

Rangers found guidance in *The Use Book* for selecting the most suitable administrative sites. "Eventually all the rangers who serve the year round will be furnished with headquarter cabins on the reserves," the 1905 edition stated. According to *The Use Book*:

Rangers' cabins should be located where there is enough agricultural land for a small field and suitable pasture land for a few head of horses and a cow or two, in order to decrease the often excessive expense for vegetables and feed. In course of time several rangers' camps will be needed for each township, and selections of sites should be made with this in view. The amount of agricultural land necessary to supply a ranger's family with vegetables and to raise hay and grain enough to winter his saddle and other stock will vary greatly in different localities, but as a general rule it will not be less than 10 nor more than 40 acres. The field must, of course, be inclosed by a stock-proof fence.

The pasture should be of sufficient size to support the stock not in use by the ranger during the summer, and only in cases where it is obviously necessary should they include land that could be used for agriculture. They will vary in size, according to the quality of the feed, from 40 to 200 acres. A two or three wire fence strung on posts or trees 30 feet apart will, in most cases, be sufficient to protect these pastures from range stock.¹⁷

The Forest Service made no administrative site withdrawals within the area now encompassed by Lassen Volcanic National Park. It did, however, make six withdrawals in November 1906 and October 1907 for ranger stations in the Mill Creek Valley and Battle Creek Meadow areas just south of the present park boundary. One of these sites, 80 acres of bottomland on Mill Creek, was located just two miles south of the present park boundary. The Forest Service made these administrative site withdrawals to preserve its options as various citizens entered claims in the same area under the Forest Homestead Act.¹⁸

Within the future boundaries of the national park, six individuals filed June 11 claims: Horace Herbert; Elmer Parks; Frank Janak; Kitty Jones; John T. Cameron; and Jefferson D. Cameron.¹⁹ Following field inspection, Lassen Peak Forest Reserve Rangers dismissed all but Herbert's claim as fraudulent. In a typical report, ranger William Hall wrote of John Cameron's claim: "claimant is not on the land to exceed one month in 12, and then only to attend his stock. . . . Believe claim taken to control summer range in this vicinity; can not recommend patent."²⁰ John's brother and ranching partner Jeff's adjacent claim was similarly dismissed on the grounds that the small 13 x 14 foot cabin "containing no furniture other than a stove" and represented temporary shelter rather than a permanent home; that none of the land had been cultivated; that Mr. Cameron made only infrequent visits to the claim "being away the greater part of the time working at various mills"; and – the most familiar litany – that "the claim was located to secure a larger range during the summer for stock purposes."²¹ When faced with protests from claimants, local courts upheld the forest service position and the land reverted to the public domain. Today the Camerons' tenure is evident only in the name of the open grass land north of Juniper Lake: "Cameron Meadows."

In contrast, the Forest Service reported that Horace Herbert had a legitimate claim to 160 acres at Badger Flat. Here he had constructed a one-room house of lodge pole pine logs. He had about 40 acres in hay and 85 acres under fence. Like other area residents, Herbert occupied the place in the summer only. Barrett wrote to the Register and Receiver of the U.S. Land Office in Redding, "Altho [sic] this is only a summer grazing claim, the claimant has complied with the law as nearly as he could do, and lives on the place during the entire summer season, being about the only

June 11 Claim: Adverse Report

. . . Certificate was withheld, an adverse report having been made against the entry by the Forest Service, September 25, 1906. Based on said report, proceedings under the Circular of February 14, 1906, were directed against it the charges being:

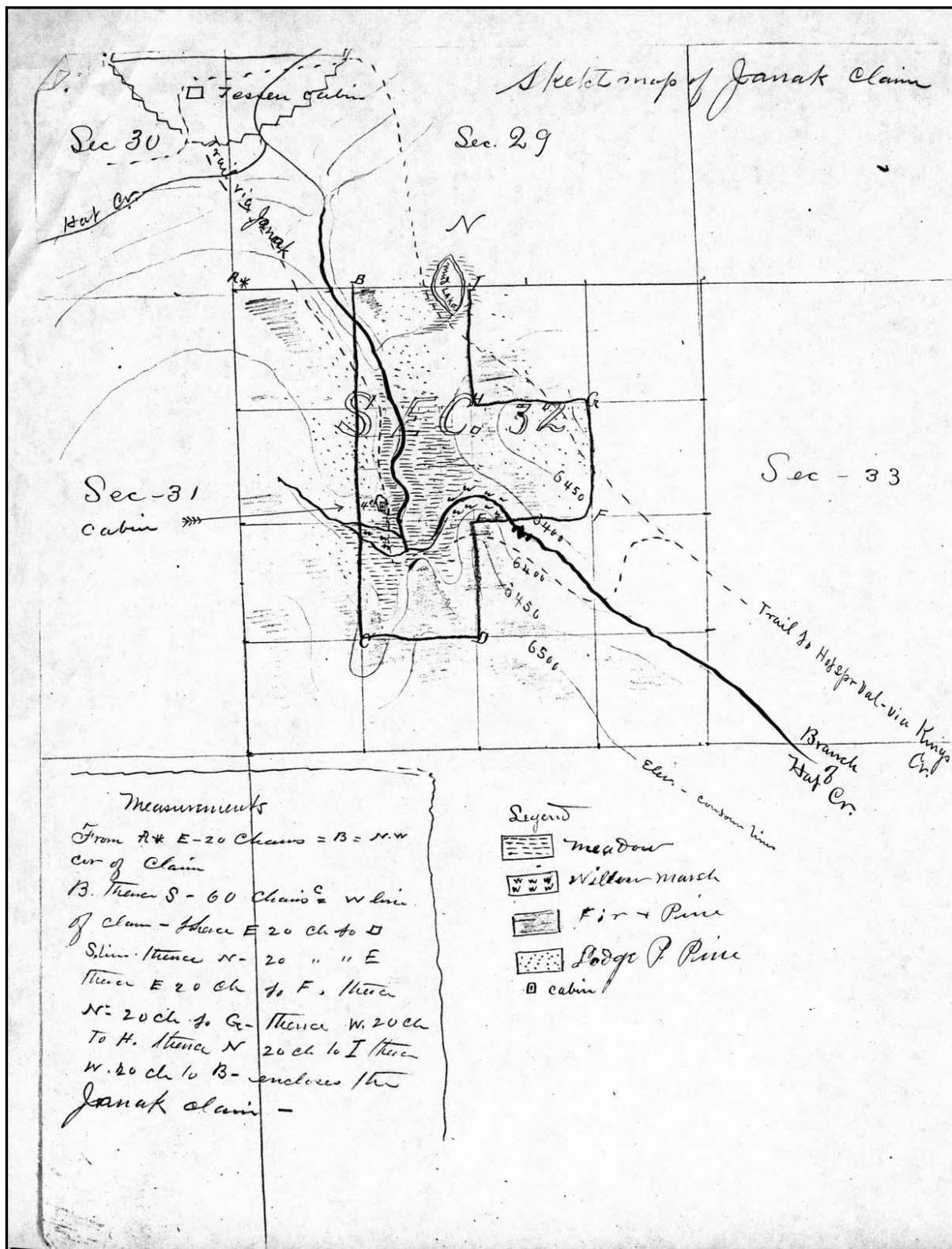
Improvements consisted of a log cabin 13 by 14 feet in size covered with shakes on sides and roof, and having a board floor, and containing no furniture other than a stove; that none of the land has been cultivated but has furnished pasture for about sixty head of cattle, but the claimant has never made his home on the claim and has been on it only once this year and that the claim was located to secure a larger range during the summer for stock purposes.

According to the claimant's own statement he was there three months the first year, since which time he has made only visits during the summer, being away the greater part of the time working at various mills.

Source: H.H. Schwartz, Acting Assistant Commissioner, to Lassen County Register and Receiver, August 1909. File: Cameron, Jeff D, HE 3974, Folder U Adjustments, Alpha Series 1901-1953, Lassen National Forest, RG 95, NARA San Bruno.

homesteader in that region who does do so."²² Herbert received a certificate of patent for his land two months later in March 1907.

Perhaps the most far-reaching effect the Forest Service had on the landscape came as a result of its fire suppression policy. Since time immemorial, fire had played across the landscape of the Lassen Peak region in the form of lightning-caused fires. With the arrival of the first humans to northern California came the technology to apply fire to the landscape, which aboriginal peoples used for a whole range of cultural reasons, such as promoting the growth of certain plant species for food or basketry, facilitating the harvest of plants, killing pests, or improving forage for game.²³ Far from being an untouched wilderness, the land seen by the first European explorers and settlers had already been manipulated by humans to various degrees for millennia. Though much of twentieth century federal fire policy has been marked by fire exclusion, this was very much a live debate in the Forest Service's formative years. A diverse group of early Euro-Americans recognized the efficacy



USFS map of Frank Janak Claim. (Source: Folder U Adjustments, Alpha Series 1901-1953, Lassen National Forest, RG 95, NARA San Bruno.)

of fire as a tool – to improve range, reduce fuels in timberlands, or prepare lands for agriculture. Poet Joaquin Miller called such use of fire the “Indian Way,” and advocated a return to these practices. Likewise, explorer John Wesley Powell also lent his support to the usefulness of fire on the landscape. Others – primarily professional foresters – viewed such “light burning” with great suspicion, describing it pejoratively as “Paiute forestry.” They saw those timbermen who advocated the use of light burning to protect their timber investments as short-sighted and greedy. True, low intensity fire might reduce fuels to protect the timbermen’s investments, but these foresters, schooled in European forestry practice, saw fire as detrimental to forest reproduction, which in a worst-case scenario could lead to a timber famine.²⁴

Fittingly, northern California – an area marked by subterranean fire in the form of lava flows and eruptions – became the crucible in which this national controversy simmered. The “light burning” controversy, as it was called, pitted advocates of fire use against those who saw fire as an aberration on the landscape, something to be rooted out and eliminated. Shasta-area timbermen such as T.B. Walker and G.L. Hoxie favored the light burning approach, whereas Forest Service Chief Henry Graves was of the position that “the first measure necessary for the successful practice of forestry is protection from fire.”²⁵

The year 1910 proved to be pivotal. In that year, five million acres of national forest land burned, with 78 firefighter fatalities in the northern Rockies.²⁶ The young Forest Service was stunned. Back in California, Barrett reported that from 1905 to 1909 there was not one large conflagration on the three forests under his charge. However, in 1910, a year of extreme drought conditions throughout the West, two fires burned out of control on the Lassen Peak Forest Reserve. The Murken Bench fire, which blew up on July 21, 1910 and continued for 25 days, burned more than 10,291 acres and destroyed an estimated 3 million board feet of timber. The Big Springs fire began on August 12, 1910 and lasted 31 days, burning more than 11,360 acres.²⁷ At the same time, T.B.

Walker lost control of one light burn, which eventually grew to over 33,000 acres.²⁸

Critics of the Forest Service’s opposition to light burning, including Secretary of the Interior Richard Ballinger, saw the 1910 debacle as a failure of Forest Service policy. In contrast, Forest Service officials saw 1910 as reason to redouble fire suppression efforts since many of the fires that scorched the West were a result of human carelessness or folk-burning practices. Following the summer of 1910, F.A. Silcox, Assistant District 1 Forester, confidently wrote in the journal *American Forestry*, “there is not the slightest doubt but that with an adequate trail, lookout, and telephone system, and a sufficient equipment of tools, the fires [of the future] can be controlled.”²⁹ Silcox’s words would become a self-fulfilling prophecy in the years and decades to come. Forest rangers provided the first line of defense against forest fires, and initially the sole method of detection was patrol; rangers scouted for fires on foot or horseback. Gradually a system of ridge trails and lookout points developed, and eventually the patrol routes were mapped and defined. When a ranger spotted a fire, he could either hasten to the spot and attempt to put it out alone, or he could go for help. Because of the need for quick response to fires, road and trail development and the installation of telephone lines were integral to fire control. When rangers summoned help, firefighters were recruited from lumber camps, mining camps, ranches, or homesteads. Barrett paid the temporary firefighters 25 cents per hour. The men fought fires using old tools discarded along the route of the Western Pacific Railroad (just south of the Park, along the North Fork of the Feather River).³⁰

Reflecting this trend of redoubled fire suppression efforts, 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 King 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.³¹ The

lookout was in use for less than a year before the mountain re-erupted. (Its use and destruction in the course of several eruptions during 1914-15 are described in the next chapter.)

In the years to come, light burning tests by Stuart Brevier Show and E.I. Kotok (some of which took place in the Mount Shasta area), followed by a California Forestry Committee study in 1920 and the Mather Field Conference of 1921, sealed the fate of Forest Service fire policy: Light burning was roundly condemned.³² Not for many decades would a critical mass of foresters come to understand the long-term ill effects of this policy on forest health, as the natural regenerative effects of fire on forest ecosystems were suppressed.³³ Although humans had played a role

started in the spring as soon as it became dry and were not suppressed until the late fall rains and snows put them out.” He added enthusiastically, “Since the Service has taken charge the sky around here is as clear as crystal all summer. I never see any forest fires, not even smoke, because the Rangers seem to get to them before they get to be of any size.”³⁴

The Forest Service’s effectiveness in putting out fires can be traced to several factors. First, the forest was overgrazed; a shortage of grass on the forest floor slowed the spread of wildfire. Second, stockmen had set fires to burn away undergrowth and improve the grazing resource, further reducing the amount of fuel for wildfire. Commenting on this condition of the forest, Barrett wrote, “I

personally put out a number of fires from 1905 to 1909 where today one man would have absolutely no chance to put out a fire on the same area. Without this condition in our favor we never would have put out the fires during the early days of forest administration with so few men.”³⁵ Third, the Forest Service made fire suppression a high priority and devoted much of its organizational energy to the task. For many, fire suppression became the moral equivalent of war.³⁶

In addition to fire control, the Forest Service assumed responsibility for timber “cruises,” designed to document the size and volume of sale in a specific zone, the ease with which the timber could be harvested, and the value of the sale on the open market. Sale of public timber from the Lassen Peak Forest Reserve was

guided by the forest’s Sustained Yield Timber Management Plan. Of development of this plan, ranger A. E. Wieslander remembered: “the main guideline was that [private companies would] cut 75 million [board] feet a year of government timber until the whole area had been cut over once. Then they would have to reduce the cut down to what the area would sustain.”³⁷ Forest Assistant Richard H. Boerker described a 1911 “Reconnaissance” within the Susanville Block of Lassen National Forest:



Fire Lookout on the Shasta National Forest, California, 1914.

(Source: USDA Forest Service, *100 Years of Federal Forestry* (Washington, D.C.: Government Printing Office, 1976.)

in the fire ecology of the Lassen Peak region for thousands of years, the advent of the Forest Service’s fire-control efforts began an extended period in which fire was significantly less frequent and widespread than previously. One old California settler told an official: “In the years before the Forest Service took over the care and protection of the forests around here, the mountains within view of my ranch were not visible for many months at a time, being almost continuously enveloped in smoke from the big forest fires that were raging in the forests all summer without ever being under control. They

The route taken by the crew was roughly in the shape of a horse-shoe, and a distance of 85 miles was traveled by the outfit. In all 11 camps were made and these averaged about 7 miles apart. The crew usually reconnoitered within a radius of 3 miles from each camp, this being considered the maximum distance at which a crew could work efficiently During the season [June and July] 53,400 acres of government land was estimated, mapped, and described. This area was cruised by taking strips covering 5% of the area.³⁸

By 1915, the administrative staff for Lassen National Forest consisted of the forest supervisor, deputy forest supervisor, seven permanent rangers, and two clerks. In addition, 32 men were employed on a short-term basis during the 1915 fire season. The supervisor's office was located at Red Bluff, rangers were stationed at Mineral, Hat Creek, Butte Meadows, and Coppervale, and men on lookout duty were stationed at Turner Mountain, Magee Peak, Harvey Mountain, Peg Leg Mountain, Colby Mountain, and Prospect Peak. The lookout station on Prospect Peak, which later passed to the National Park Service, was a small clapboard building with pyramid roof. Built in 1912 in Red Bluff, it was disassembled and hauled in pieces by mule to the 8,342-foot summit of Prospect Peak.³⁹ (In 1981, the lookout would be hauled back down the mountains. It now serves as an interpretive display.)

The Forest Service also helped to conserve fish and wildlife populations in the Lassen Peak region. Prior to the establishment of the forest reserves, the State of California enacted fish and game laws but provided no effective law enforcement in the remote country surrounding Lassen Peak. As soon as Barrett established his office in Quincy, he applied for a deputy game warden appointment and secured similar appointments for his rangers. The state paid the rangers \$25 for each arrest resulting in a conviction, and the rangers went after the poachers with zeal. The worst fish and game law violations occurred in the vicinity of the railroad construction camps along the Western Pacific Railroad on the Plumas National Forest. After a number of convictions, the Forest Service reduced poaching and practically ended the practice of taking fish by dynamiting.⁴⁰

Early in 1908, the Forest Service established a separate administration for Lassen Peak Forest Reserve. L. A. H. Kling, who had served as Barrett's deputy supervisor since November 1, 1906, was appointed forest supervisor for Lassen. Barrett himself left for a tour of duty in Washington, D.C., and returned later that year to resume administration of the Plumas and Diamond Mountain forests, a position he held until 1910. Barrett claimed that after four years and eight months on the job, he traveled 9,460 miles by saddle horse or buckboard, and another 3,500 miles on foot. He covered as much as 40 miles per day by horse and 18 miles per day on foot. The Lassen Peak region did not enter the automobile age until a few years later.⁴¹

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 (see Chapter Eight). In March 1906, citizens of Plumas and 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.⁴²

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.⁴³

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, and it provided authority to the President to proclaim such areas as national monuments without a separate act of Congress. Although the major impetus for the law came from rising concern about the desecration of archaeological ruins in the Southwest, 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. When, the following year, Congress withdrew presidential authority to establish forest reserves in western states without congressional approval, the presidential authority contained in the Antiquities Act became even more significant.⁴⁴

The Forest Service responded quickly and aggressively to the legislation, for there was no immediate expectation that national monuments would be administered together with national

parks under the Department of the Interior. 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.⁴⁵

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. . . .⁴⁶

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.

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 (Devil’s 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

CINDER CONE NATIONAL MONUMENT
WITHIN LASSEN PEAK NATIONAL FOREST
CALIFORNIA
 1907

MT. DIABLO MERIDIAN AND BASE
 FOREST SERVICE, U.S. DEPT. OF AGRICULTURE

— NATIONAL MONUMENT BOUNDARY

R. 6 E.

T. 31 N.

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Cinder Cone National Monument, California
 By the President of the United States of America, Theodore Roosevelt
 A PROCLAMATION
 [No. 753--May 6, 1907--35 Stat.2131]

anything but attracting tourists with the “natural curiosities” that they contained.⁴⁷

Asked to provide more specific boundaries, Barrett sent a second report in January 1907. Actual surveys of the proposed national monuments, he explained, had to await the summer. In the meantime, he urged immediate action to protect the Lassen Peak and Cinder Cone areas. The following month, Barrett sent a third report explaining his sense of urgency. Placer miners, who had already “plastered” claims all over the Plumas National Forest, would soon file claims in the scenic hot springs area unless it were protected. Furthermore, the Forest Service lacked funds to administer these areas. Soon, Barrett expected, private parties would be pressing the Forest Service for special use permits to develop hotels and bathhouses around these hot springs.⁴⁸

Barrett argued that several national monuments were more sensible than one national park encompassing the whole area. The “natural curiosities” were scattered, and a park covering them all would include lands suitable for other uses. Barrett thought local residents would prefer a cluster of national monuments totaling some 10,000 acres to a national park covering some 144,000 acres. As long as the area was surrounded by national forest, it could be administered more efficiently by one agency rather than two.⁴⁹

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.⁵⁰

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.”⁵¹

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.

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 aesthetics. 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 Park Service reflecting “conservationist” and “preservationist” ideals respectively.⁵²

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.⁵³ 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.”⁵⁴ National parks were a timely response to the rise of the new consumer economy, which allowed scenic and scientific values to compete in the marketplace with other forms of resource exploitation.

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.⁵⁵

Raker re-introduced bills to establish a national park in 1913 and 1914 but he could not find much support for them in Congress.⁵⁶ Although he held a seat on the House Public Lands Committee, which oversaw all such national park bills, Raker was unable to make the case that the Lassen Peak region’s scenic values were of a quality to warrant national park status. He obtained the support of various local organizations, including the Lassen Highway Association of Susanville, the Oroville Chamber of Commerce, and the Shasta County Promotion and Development Association. Raker also garnered support for the bill from the Department of the Interior, first under the Taft Administration in 1912, and again under the Wilson Administration in 1913. However, the Department of Agriculture, which included the Forest Service, suggested that the proposal should await the establishment of a “Bureau of National Parks.”⁵⁷

The most important objection to the bill came from Acting Secretary of Agriculture B. T. Galloway in January 1914. Galloway provided a summary of the forest resources within the area of the proposed national park, classifying them by forest type and assigning each an estimated volume and value. Whereas Galloway’s predecessor in the Taft Administration had commented that the timber was “of poor quality” and could not “be logged for years to come,” Galloway made no such disclaimer. More importantly, he emphasized the area’s importance to stockmen, and declared that the creation of a national park would “affect at least 12 users of the range and as many ranges would be cut in two.” He noted that fencing the area to prevent grazing trespass would be impractical, yet to allow grazing to continue would be unprecedented in a national park, and he insisted that the Forest Service could administer the area satisfactorily in its present status.⁵⁸

In advocating his bill, Raker pointed not just to the area’s volcanic features but also to the

scenic beauty of its forested mountains, sparkling lakes, and majestic canyons. In addition, he noted that the streams abounded in trout while many of the lakes were stocked, and he observed the area's potential role as a wildlife sanctuary for deer, quail, and grouse. As for its accessibility to visitors, the Southern Pacific Railroad extended up the Upper Sacramento Valley and the Western Pacific Railroad followed the Feather River. From these nearby points the area could be reached by several good trails; and wagon roads extended to within eight or ten miles of the proposed southern boundary. An automobile stage for tourists had already begun making a regular run from Redding to Manzanita Lake.⁵⁹

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 1914.⁶⁰ 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.⁶¹ 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."⁶²

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



NPS Officials. (Source: Negative #3, Historic Photograph Collection, LAVO.)

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 9.⁶³

In time, the National Park Service was able to remove the objectionable features of Lassen Volcanic National Park's enabling legislation. The park joined an illustrious list of other parks centered around volcanic features: Yellowstone, Mount Rainier, Crater Lake, and Hawaii Volcanoes.

Chapter Six Notes_____

¹ The standard reference on U.S. Forest Service history is Harold K. Steen, *The U.S. Forest Service: A History* (Seattle: University of Washington Press, 1976). See also Samuel Trask Dana, *Forest and Range Policy: Its Development in the United States* (New York: McGraw-Hill Book Company, 1956); William G. Robbins, *American Forestry: A History of National, State, and Private Cooperation* (Lincoln: University of Nebraska Press, 1985); William D. Rowley, *U.S. Forest Service Grazing and Rangelands: A History* (College Station, Texas: A&M University Press, 1985), and Paul W. Hirt, *A Conspiracy of Optimism: Management of the National Forests since World War Two* (Lincoln: University of Nebraska Press, 1994).

² Gifford Pinchot, *Breaking New Ground* (New York: Harcourt Brace, 1947), pp. 113-117.

³ E. T. Allen, "Lest We Forget!: A Tribute to the National Forest Pathfinders," *American Forests*, Vol. 36, pp. 393-395.

⁴ Dana, *Forest and Range Policy*, p. 119.

⁵ Paul H. Roberts, *Hoof Prints on Forest Ranges: The Early Years of National Forest Range Administration*, (San Antonio: The Naylor Company, 1963), p. 41.

⁶ Dana, *Forest and Range Policy*, p. 143. Gifford Pinchot is the subject of several biographies. The most recent is Char Miller, *Gifford Pinchot and the Making of Modern Environmentalism* (San Francisco: Island Press, 2001).

⁷ 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.

⁸ Strong, *Footprints in Time*, p. 32.

⁹ 34 Stat. 3063.

¹⁰ L. A. Barrett, *Leaves from a Forest Ranger's Diary* (U.S. Department of Agriculture, Forest Service, Plumas National Forest, California), pp. 30-32.

¹¹ Barrett, *Leaves from a Forest Ranger's Diary*, p. 33.

¹² Roberts, *Hoof Prints on Forest Ranges*, pp. 38, 46.

¹³ Roberts, *Hoof Prints on Forest Ranges*, pp. 35, 55.

¹⁴ Strong, *Footprints in Time*, p. 34.

¹⁵ Barrett, *Leaves from a Forest Ranger's Diary*, pp. 36-37. The kind of change in forest tenancy that Barrett describes here was viewed by the Forest Service, and later by historians, as progressive. Some recent scholarship offers a revisionist interpretation that is more sympathetic to local forest users. See, for example, Karl Jacoby, *Crimes Against Nature: Squatters, Poachers, Thieves, and the Hidden History of American Conservation* (2001) and Louis Warren, *The Hunter's Game: Poachers and Conservationists* (New Haven: Yale University Press, 1997).

¹⁶ Barrett, *Leaves of a Forest Ranger's Diary*, p. 37.

¹⁷ U.S. Department of Agriculture, Forest Service, *The Use of the National Forest Reserves: Regulations and Instructions* (Washington: Government Printing Office, 1905).

¹⁸ General Land Office, Tract Book for Township No. 29 N. Range No. 4 E.

¹⁹ Folder U-Adjustments, passim, Acc 95-93-007, Alpha Series 1901-1953, Lassen National Forest, RG 95, NARA San Bruno.

²⁰ Folder U-Adjustments, Claims Cameron, John T. HE 3973 , Acc 95-93-007, Alpha Series 1901-1953, Lassen National Forest, RG 95, NARA San Bruno.

²¹ H.H. Schwartz, Acting Assistant Commissioner, to Lassen County Register and Receiver, August 1909. File: Carmeron, Jeff, HE 3974, U-Adjustments, NARA San Bruno.

²² L. A. Barrett to Register and Receiver, January 26, 1907, Homestead Final Certificates, Box 1485, File 2760, Land Entry Files, California, Redding Land Office, Record Group 49, NARA San Bruno.

²³ See Henry T. Lewis, "Patterns of Indian Burning in California: Ecology and Ethnohistory," in *Before the Wilderness: Environmental Management by Native Californians*, ed. Thomas C. Blackburn and Kat Anderson (Menlo Park, California: Ballena Press, 1993), pp. 55-116; and Albert J. Parker, "Fire in Sierra Nevada Forests: Evaluating the Ecological Impact of Burning by Native Americans," in *Fire, Native Peoples, and the Natural Landscape*, ed. Thomas R. Vale (Washington, D.C.: Island Press, 2002), pp. 233-267.

²⁴ Stephen J. Pyne, *Fire in American: A Cultural History of Wildland and Rural Fire* (Princeton: Princeton University Press, 1988), p. 99-102.

²⁵ Pyne, *Fire in America*, p. 103-104.

²⁶ Nancy Langston, *Forest Dreams, Forest Nightmares: The Paradox of Old Growth in the Inland West* (Seattle: University of Washington Press, 1995), p. 251.

²⁷ U.S. Forest Service, "Map of Lassen National Forest and Directions to Hunters and Campers," 1915.

²⁸ Pyne, *Fire in America*, p. 103-104.

²⁹ F.A. Silcox, "How the Fires were Fought," *American Forestry: The Magazine of the American Forestry Association* 16 (November 1910), p. 638.

³⁰ Strong, *Footprints in Time*, pp. 34-35.

³¹ William C. Hodge, "The Lookout on Mount Lassen," *American Forestry*, Vol. 20 (August 1914), pp. 568-571.

³² Pyne, *Fire in America*, pp. 105-110.

³³ Langston, *Forest Dreams, Forest Nightmares*, pp. 247-263.

³⁴ Quoted in Richard H. Douai Boerker, *Our National Forests* (New York: MacMillan Company, 1918), pp. xxxvi-xxxvii.

³⁵ L. A. Barrett, *The First Four Years of the Plumas National Forest* (Plumas Historical Society, Publication No. 5, June 1961), p. 14.

³⁶ Pyne, *Fire in America*, pp. 239-241.

³⁷ 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. 77.

³⁸ Richard H. Boerker, "A Reconnaissance Working Plan Lassen National Forest, 1911, The Susanville Block," March 1912 Pacific SW Region Selected Historical Files, 1906-59, NRHS 95-97-004, RG 95, NARA San Bruno.

³⁹ "Lassen lookout gets a facelift," *Record Searchlight*, September 2, 1981, Lassen NP vertical file, Tehama County Public Library, Red Bluff.

⁴⁰ Strong, *Footprints in Time*, p. 35; L.A. Barrett, "Early Day History of Lassen and Plumas Forests," *Plumas Memories*, June 4, 1961, p. 12. For a history of Forest Service efforts in wildlife conservation nationwide, see Theodore Catton and Lisa Mighetto, *The Fish and Wildlife Job on the National Forests: A Century of Game and Fish Conservation, Habitat Protection, and Ecosystem Management* (Washington D. C.: USDA Forest Service, 1998).

⁴¹ Barrett, *Leaves from a Forest Ranger's Diary*, pp. 39-40.

⁴² Strong, *Footprints in Time*, p. 35; Barrett, *Leaves from a Forest Ranger's Diary*, p. 33.

⁴³ Strong, *Footprints in Time*, pp. 48-49.

⁴⁴ Hal Rothman, *America's National Monuments: The Politics of Preservation* (Lawrence: University Press of Kansas, 1994); Barry Mackintosh, *Shaping the System* (Washington: U.S. Department of the Interior, 1991), p. 48.

⁴⁵ Rothman, *America's National Monuments*, p. 24.

⁴⁶ U.S. Department of Agriculture, Forest Service, *The Use Book* (Washington: Government Printing Office, 1906), pp. 69-70.

⁴⁷ Strong, *Footprints in Time*, p. 36.

⁴⁸ Strong, *Footprints in Time*, pp. 36-37.

⁴⁹ Strong, *Footprints in Time*, p. 37.

⁵⁰ Strong, *Footprints in Time*, p. 37.

⁵¹ 35 Stat. 2132.

⁵² Stephen Fox, *The American Conservation Movement: John Muir and His Legacy* (Madison: University of Wisconsin Press, 1981), pp. 139-147. For a revisionist interpretation that emphasizes a democratic urge behind the Hetch Hetchy project and casts the "schism" as a healthy precursor of modern environmental politics, see Miller, *Gifford Pinchot and the Making of Modern Environmentalism*, pp. 138-144.

⁵³ Richard West Sellers, *Preserving Nature in the National Parks: A History* (New Haven: Yale University Press, 1997).

⁵⁴ Robert Sterling Yard, *The Book of the National Parks* (New York: Charles Scribner's Sons, 1920), p. 22.

⁵⁵ Strong, *Footprints in Time*, p. 46.

⁵⁶ John Ise, *Our National Park Policy: A Critical History* (Baltimore: Johns Hopkins Press, 1961), p. 222.

⁵⁷ U.S. Congress, House, *Lassen Volcanic National Park*, 63rd Cong., 2d sess., Report 1021, 1914, pp. 7-10.

⁵⁸ U.S. Congress, House, *Lassen Volcanic National Park*, 63rd Cong., 2d sess., Report 1021, 1914, pp. 4-5.

⁵⁹ U.S. Congress, House, *Lassen Volcanic National Park*, 63rd Cong., 2d sess., Report 1021, 1914, p. 7.

⁶⁰ U.S. Congress, House, *Lassen Volcanic National Park*, 63rd Cong., 2d sess., Report 1021, 1914, pp. 11-12.

⁶¹ 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.

⁶² Yard, *The Book of the National Parks*, p. 20.

⁶³ Robert Shankland, *Steve Mather of the National Parks* (New York: Alfred A. Knopf, 1954), pp. 170-171.

Chapter Seven

Volcanic Eruptions and Geologic 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.

The California Geological Survey

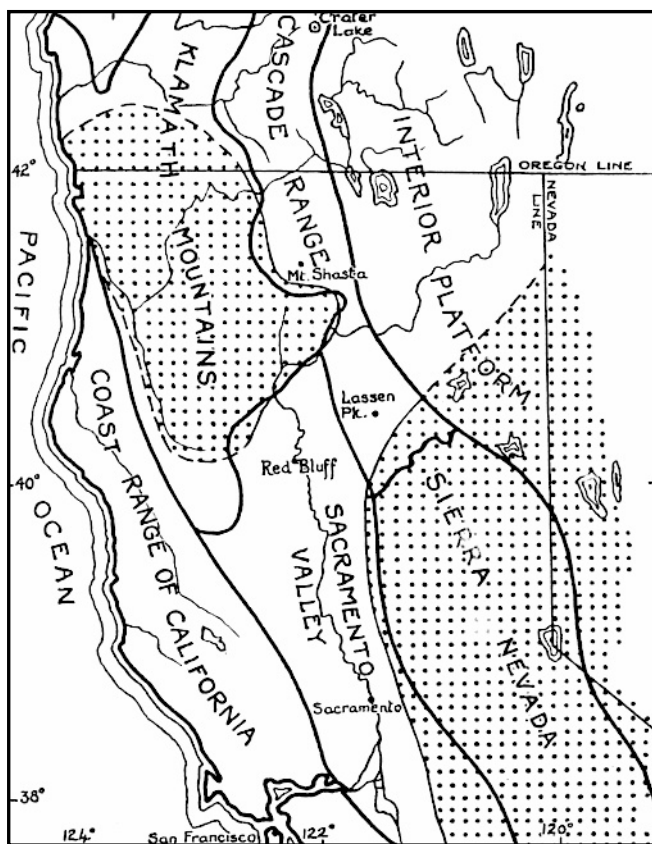
The California Geological Survey marked an important transition in the exploration of the West. During the 1850s, the federal government and the Army Topographical Engineers dominated western exploration, focusing primarily on the discovery of suitable transportation routes through the mountains. With 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 and ultimately would be lauded as the first in a series of surveys associated with post Civil-War western expansion and as the inspiration for later federal surveys. 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).¹

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.² 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



Geologic map of the Lassen region redrawn from Diller (1915). The map shows Lassen Peak lying at the intersection of different mountain ranges, making it a geologically complex area. (Source: Howel Williams, "Geology of the Lassen Volcanic National Park, California," *University of California Publications in Geological Sciences*, 21, 1931-32: 207.)

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.³

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, 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."⁴ While Brewer was correct in his recognition of the scope of volcanism in the region, he contributed to a growing misperception among scientists that the Cascade volcanoes were extinct.

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 September 25 to a camp near the tree line on Lassen Peak, probably at Lake Helen.⁵

The survey party did not lack for company on its approach to Lassen Peak. First the men met some teamsters on the wagon road, who joined them in camp and "made the evening merry with their jokes and songs." On the next day they encountered an old hunter named Loveless as well as a large party of tourists from the Sacramento Valley, who offered Brewer and his men some venison from their ample larder. They camped together another night, "spending a lively evening around their bright campfire of huge logs." The tourists then guided the survey party to the base of Lassen Peak.⁶

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 Road and following it for some distance to a crossing of the Pit River at the mouth of Falls River.⁷

Clarence King's Survey

Clarence King, who had traveled so extensively with Brewer in 1862-63 and was practically trained by the California Geological Survey, received the great assignment of his career under the auspices of the U.S. Army Corps of Engineers in 1867. He was to survey a broad belt of country along the fortieth parallel from the Rocky Mountains to the Sierra Nevada, examining the geology and collecting specimens of the botany and zoology of the regions traversed. It was one of the most ambitious surveys of the nineteenth century American West.⁸

By 1870, this survey was drawing to a close. King decided to focus his final effort on the volcanoes of the Cascade Range. He sent his assistants, Samuel F. Emmons and Arnold Hague, north to study Mount Rainier and Mount Hood respectively, while his own party proceeded to the country around Mount Shasta and Lassen Peak. King's report contained little that was new on the Lassen Peak region, except that he recognized

more clearly than his predecessors that the many cones surrounding Lassen Peak occupied the caldera of a much larger andesitic volcano.⁹

Harvey W. Harkness's Survey

In 1874, Harvey W. Harkness visited the Lassen Peak region with particular attention to the Cinder Cone. There had been rumors of volcanic activity, mostly stemming from prospectors' accounts in the winter of 1850-51. Some said that "fires" had been observed from as far away as Angel's Camp, 160 miles away, and there was a record of two prospectors traveling "for a distance of 10 miles across a strip of country where the rocks were still so hot as entirely to destroy their boots." Harkness climbed Cinder Cone and explored the country around Snag and Juniper lakes (nearby Mount Harkness would be named in his honor). In a paper presented to the California Academy of Sciences afterward, Harkness supported the contention that Cinder Cone had erupted recently.¹⁰ Subsequent investigations would push the date of the last eruption back about 200 years.¹¹

S. E. Tillman's Survey

In 1878, Captain George M. Wheeler, in charge of another Army exploration of the West, ordered Lieutenant S. E. Tillman to survey and map 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."¹²

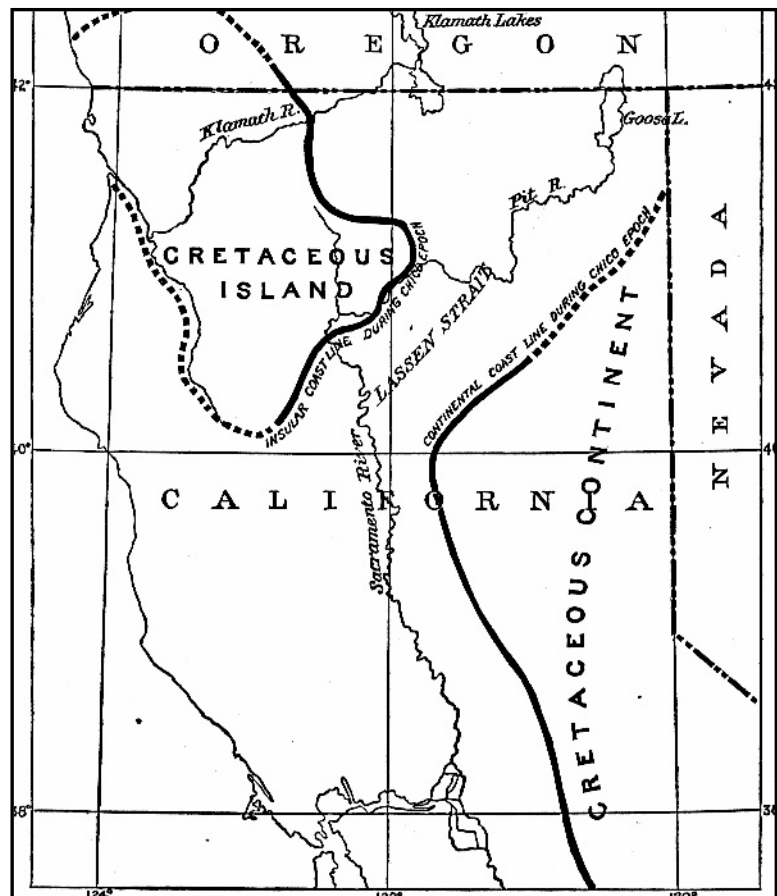
On October 6, 1878, Tillman's party stood on top of Lassen Peak. "A more fitting day could not have been chosen," Tillman reported. "It was immediately subsequent to a storm, and the atmosphere was clear and still. Mount Pitt on the

north and Mount Rose on the south could be distinctly seen. Mount Shasta, though 70 miles away, did not appear half that distance.” The air quality offered a welcome reprieve from the haze that so often blanketed the valleys, which the party found to be “a source of much trouble in topographical and geodetic observations.”¹³

Tillman recognized that Lassen Peak was the center of massive lava flows in every direction. This “vast sheet of lava” covered the western slope of the Sierras and reached into the Sacramento Valley as far south as Oroville and Red Bluff. It extended in the east as far as Susanville. Tillman mapped the limits of the lava beds in relation to the various camps that the party made during three months of field work. He classified the types of lava encountered. “The lava-fields from Oroville to the north are principally hard basaltic lava with occasional layers of ashes and scoriae,” he wrote. “Lassen’s Butte is a magnificent mass of trachytic *débris* with projecting ledges of the same. It was once a crater. Rhyolite is found at the south and eastern base of the butte, which at a distance closely resembles gneiss.”¹⁴ Tillman’s observations added to a growing scientific body of knowledge about lava types and what they revealed of past volcanic activity.

J. S. Diller’s Survey

Tillman’s recognition of the extent and variety of lava flows laid the groundwork for the most comprehensive geologic study of the Lassen Peak region 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



Geologic map showing “Lassen Strait.” (Source: 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: 401.)

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.¹⁵

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.¹⁶

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."¹⁷ Diller's work contributed to the belief that the Cascade volcanoes were largely extinct.

Eruptions of May 1914 - May 1915

The assessment that the volcano was extinct proved false in May 1914 when Lassen Peak showed the first signs of volcanic activity. Intermittent 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 the air and knew at once that the mountain was erupting.¹⁸ 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." Nevertheless, Abbey resolved to go up to Lassen Peak the following day to get a close look.¹⁹

Setting out before light, Abbey got as far as the Supan Sulphur Works by truck and made an arduous ascent on snowshoes all the way to a point on the summit ridge, which gave him an intimate view of the new crater. "All around were volcanic ashes 4 or 5 inches deep with large and small boulders ranging in size from hen's eggs to approximately 2 feet in diameter," he wrote. "Steam and ashes were being blown out in puffs; loud noises and hissing steam could be heard coming from the newly made crater." Abbey saw that the fire lookout, which the Forest Service had built on Lassen Peak at the end of the 1913 fire season, remained standing. He went over to it and found it unharmed. All the provisions left by its first and only tenant, W. H. Packard, were still inside. Emboldened, Abbey then descended into the new crater, where a small lake and crevasse had formed overnight. "From the crater and crevasse were coming puffs of steam and ashes,"

Abbey reported. "Noises coming from the crater were heard that sounded like something dropping down in the bottom of the crater. I could see at times approximately 50 feet down in the crater. Along the sides of the crater were small, round holes, where the steam was gushing out."²⁰

Abbey spent the next day answering telephone calls from newspaper reporters up and down the West Coast. On June 4, the intrepid ranger led a small party, including a reporter from the *San Francisco Chronicle*, back to the summit. Encountering wind, sleet, and snow, they took shelter in the lookout, which had been peppered by small pebbles in the intervening days since May 31.²¹

Abbey took a larger party up the mountain on June 6. It included a "moving picture operator from San Francisco." The tripod for the camera was so large it had to be disassembled and distributed among four men's loads. Abbey carried the camera itself, which was packed in a cylindrical case about two feet in diameter. Several members of the party lagged behind and the party was stretched down the mountainside about a quarter mile when Lassen Peak erupted again. "Thousands of tons of rock, mud, ashes, and sulphur fumes were thrown half a mile into the air; the volcanic ash scattered over the country for miles," Abbey wrote. Fortunately, the force of the eruption went to the north and northeast, so that the debris missed the party by about a half mile. The filmmaker was so exhausted by the climb he could barely stand, but with great effort the others "managed to get him to set the camera up on a flat rock and reel off some movie films." They camped on the side of the mountain and with the first light of day descended as far as Lake Helen when the volcano erupted again. The place they had camped was showered with pebbles, while ash fell as far away as Mineral and Battle Creek Meadows.²²

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."²³

At the same time that Loomis was taking his spectacular photographs from the safety of Manzanita Lake, a party of local millworkers who had climbed the peak that Sunday morning were fleeing the crater rim. A newspaper reported their story:

Without a warning, or explosion that could be heard, a huge column of black smoke shot upward with a roar, such as would be caused by a rushing mighty wind, and in an instant the air was filled with smoke, ashes, and flying rocks from the crater. They all ran for their lives. Mr. Phelps hid under an overhanging rock, which sheltered him from the rocks which brushed past him as they fell. Lance Graham was a few feet away when he was struck by a flying rock, which cut a great gash in his shoulder and broke his collar bone.

Another member of the party, Jimmy Riggins, hurled himself down a snowfield:

The cloud of smoke kept pace with him, and the rocks from the crater came rolling down the mountain with him, and when he reached the bottom of the snowdrift he found a clump of bushes, and diving into it, buried his face in the snow to keep out the blinding smoke and ashes. The smoke is described as causing the blackest darkness, black as the darkest night. If it had lasted much longer some of them would have been smothered.²⁴

Robert Phelps took shelter behind a rock ledge with Floyd Tipple and waited out the mountain's fury. After an hour, they crept forward to find Graham lying on the edge of the crater unconscious and covered with rocks and ash.



Lassen Peak eruption, May 1914. B.F. Loomis photographer. (Source: National Park Service, used with permission.)

Presuming that he was mortally injured, and fearful that they would not be able to carry him, they ran down the mountain for help. Later, a rescue party went up and found Graham still alive. His rescuers evacuated him to a Redding hospital where he was treated for a concussion, deep lacerations on his scalp, a broken collar bone, and three broken ribs. Fortunate to have survived, he made a full recovery.²⁵

The Forest Service maintained a record of eruptions from various observation stations. From July 15 to 18, Lassen Peak erupted with the greatest force yet seen, sending clouds of ash as high as 11,000 feet above the summit. It entered a period of relative quiet, broken by large explosions on August 10 and August 19. Forest Supervisor Rushing described his ranger staff's surveillance of the continuing volcanic activity in a letter of August 27, 1914:

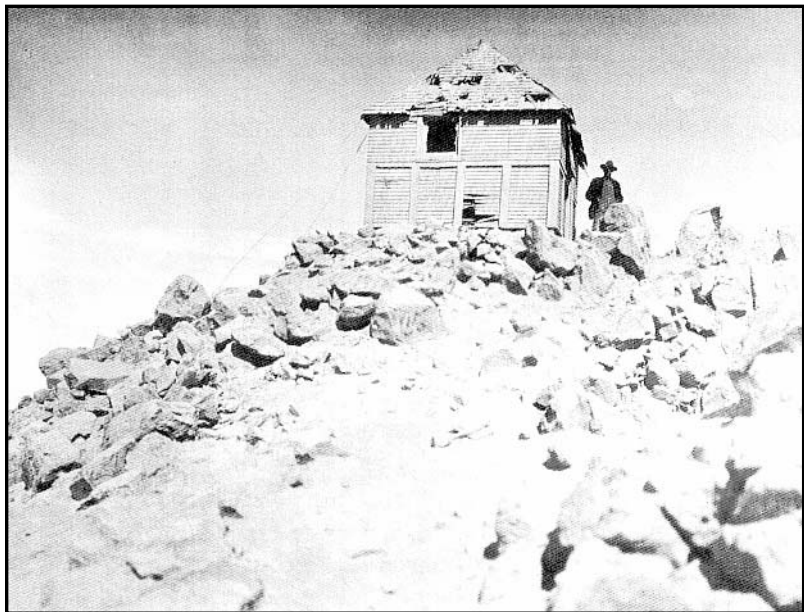
The eruptions of last week were considerably heavier than any formerly seen, and the eruption of August 19 was plainly heard by parties entering the Manzanita Chute [distant about 5 miles northwest of the mountain]. From the west end seven vibrations were felt by Ranger Bramhall at Jessen and Stuart's place in section 30, T. 31 N., R. 5 E. [distant 5 miles northeast; reference is to Forest Service map of Lassen National Forest, 1913]. Rumbles and noises similar to rocks sliding have been heard by the lookout on Brokeoff Mountain [4 miles southwest] during all recent eruptions. There is only one crater so far as we can determine.²⁶

On August 19, the Forest Service measured the ash plume as towering 10,560 feet above the summit.

Beginning on September 5, eruptions occurred almost daily. Ash fell continuously on Mineral, Viola, Chester, and other nearby towns. Area residents reported numerous earth tremors and could hear the sounds of volcanic activity and rockslides. On September 21, another eruption was said to be

“probably the most violent eruption to date.”²⁷ On September 29, an eruption severely damaged the Forest Service fire lookout on the summit. “The board shack was literally shot to pieces by the red-hot rocks hitting it on all sides,” a local writer recorded. “The house was also knocked off its foundation and left standing at an impossible angle and wholly unfit for use.”²⁸ During the September eruptions observers noted a new phenomenon: flashes of light over the crater. Some believed the volcano was spewing lava bombs; however, geologists who interviewed these witnesses concluded that the flashes of light were more likely electrical flares caused by friction of dust particles moving swiftly through the air.

The eruptions continued at intervals of a few days through the winter of 1914-15 but with decreased intensity. Often the mountain was obscured by cloud, rendering fewer opportunities to observe what was happening. The accumulation of snow around the summit convinced observers that the mountain was venting less heat than it had over the previous summer. Although ash was frequently scattered over the summit dome, it did not melt the snow. No one visited the summit during the winter of 1914-15, so no record of changes in the crater



View of the Lookout on Lassen Peak on October 12, 1914, after it had been damaged by flying debris. In the coming days it would be demolished.

(Source: B. F. Loomis, *Pictorial History of the Lassen Volcano*, Loomis Museum Association, Mineral, California, 1926: 32.)

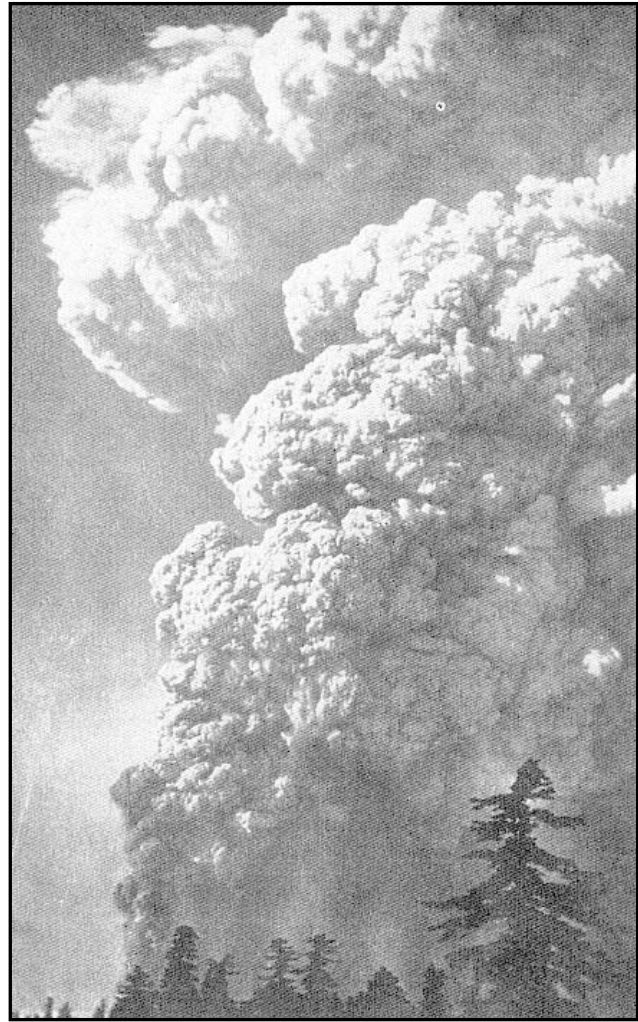
were compiled during that time period. On March 23, 1915, E. N. Hampton made the first spring ascent and took several photographs of the crater. It appeared from these photos that the new crater had grown almost as large as the old crater bowl. It was nearly circular and about 1,000 feet across.²⁹

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.³⁰

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.³¹

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



The great eruption of May 22, 1915, as seen from Mineral, twelve miles south of Lassen Peak. (Source: Arthur L. Day and E. T. Allen, *The Volcanic Activity and Hot Springs of Lassen Peak*, Carnegie Institution of Washington, Washington, 1925: 73.)

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 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.³²

The Hat Creek flood was a terrifying experience for valley residents. Rancher Harvey Wilcox was awakened about 10:00 p.m. by his horse's neighing. He went outside and saw the mudflow coming. It swept away his house. He climbed a nearby hill and built a fire, wondering if he might be the only one left alive on Hat Creek. About a mile below Wilcox's place, Elmer Soarhan was living in a tent on his homestead claim. Reading in bed, he heard the mudflow coming and raced ahead of it to warn his nearest neighbors, the Halls. Mrs. Hall used their government telephone to call Ranger Fred Seaborn at the Hat Creek Ranger Station. Meanwhile, Soarhan crossed the creek to warn a trapper, Frank Bartlett, of the impending flood. Minutes later, the Halls' house was washed off its foundation and everything inside it up to the height of the beds was washed away. They lost their chickens – the only reported loss of life in the valley. Below the Halls' place, Harry and Emma Wilcox were awakened in their home by their neighbor Dave Davis. Together with the Charley Hawkins family, these homesteaders climbed a hill in the rain and dark. "We could hear the flood, fences crashing out, but could see nothing," Emma Wilcox recalled. "Later we heard the roosters crowing and was it a welcome sound!"³³ At least four other ranches were wiped out by the flood: Nelson Stewart's homestead on Hat Creek, the Adams property on Lost Creek, and the Perkiss ranch. The Perkiss ranch occupied a flat meadow. After the flood, the meadow was littered with more than a hundred boulders of five to ten feet in diameter.³⁴

The next day, May 20, Milford and some companions hiked to Manzanita Lake in the hope of glimpsing the mountain through the shifting clouds. As the clouds broke, they observed a dark mass of what they assumed to be volcanic mud extruding about 2,000 to 2,500 feet down the side of the mountain. It was not mud but a lava flow that had spilled over the crater lip the previous night, hardening in place. As the mountain once again disappeared from view, Milford heard a splashing in the lake. The men soon realized that lava bombs were "coming down through the storm

clouds and landing around the base of the mountain and in the lake." Milford and his companions made a hasty retreat.³⁵

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.³⁶

Work of Geologists During the 1915 Eruptions

The pyroclastic surge was caused by a horizontal blast, a new feature in Lassen Peak's eruptions. Arthur L. Day, a geologist with the Geophysical Laboratory in Washington D. C., argued that the first horizontal blast occurred on May 19, and that the effects were soon superseded by the larger blast on May 22. Geologist J. S. Diller agreed with this interpretation. Day questioned whether the mudflow during the night

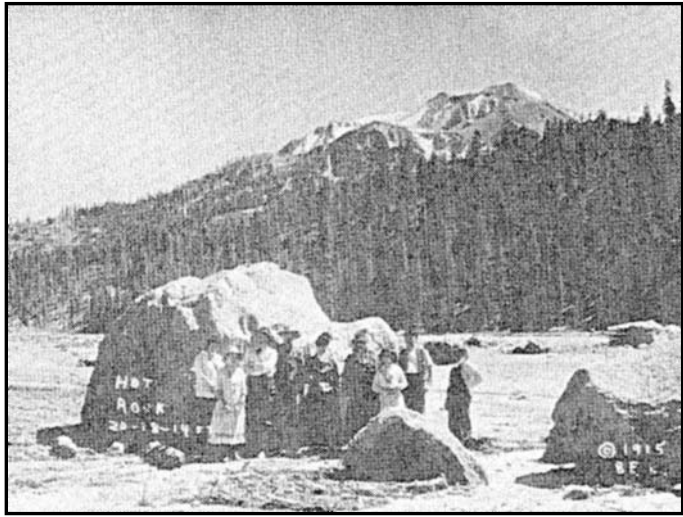
of May 19-20 was a result of lava spilling over the crater rim or a product of this horizontal blast. He noted that the eruption of May 22 also triggered a mudflow, but it was of lesser magnitude because most of the snow and debris had been cleared from the northeast face of Lassen Peak on May 19.³⁷

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.³⁸

Another geologist, Professor Ruliff S. Holway, visited Lassen Peak in June and July, 1915. He traveled by train to Red Bluff, and then by stage to Morgan Springs, a resort nine miles south of the peak. He spent June 21 to June 28 at the base of the mountain, visiting hot springs and the new summit crater, which he photographed from various points of view. Holway returned during the last week of July, approaching the mountain by the Susanville road and making his base camp at the Drakesbad resort. Holway unfortunately timed both his visits during periods of quiescence.³⁹

Diller correctly forecast that Lassen Peak had largely spent itself in the eruption of May 22 and that its volcanic activity would now subside; subsequent eruptions, though dramatic, never



Valley residents pose by Hot Rock, on Lost Creek, which was carried to this point by the mud flow. The rock was still hot eight days after the flood. (Source: B. F. Loomis, *Pictorial History of the Lassen Volcano*, Loomis Museum Association, Mineral, California, 1926: 47.)

approached the intensity of that of May 22. Diller was in Drakesbad on July 13, 1915, when an eruption dropped enough ash for him to write his name 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, 1915.⁴⁰

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 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.⁴¹

Geologic Studies

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 the only eruptive volcano in the contiguous United States until Mount St. Helens' eruption in 1980.⁴² 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). However, its scientific significance should not be exaggerated. 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).⁴³

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.⁴⁴ Following the eruption of Mount Pelée in 1902, the new challenge among volcanologists was to observe a volcano in eruption. American scientists turned their attention to the active volcanoes in Hawaii – to such a degree that Lassen Peak, even when it erupted, did not draw such intense scientific observation as, for example, Mount St. Helens would claim many years later.⁴⁵

In addition to the new focus on active volcanoes, early twentieth century volcanic studies 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 connected with the Carnegie Institution's Geophysical Laboratory, a leading sponsor of the

effort to accumulate data on igneous rocks, volcanic gases, hot springs, and fumeroles.⁴⁶ 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.”⁴⁷

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.⁴⁸ In 1926, the U.S. Geological Survey established the Lassen Volcanic Observatory in Mineral.

Observatory and Seismographic Station

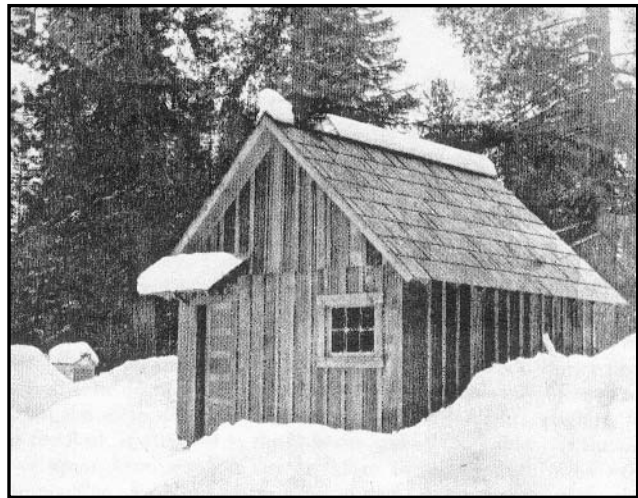
The observatory's purpose was not only to further scientific knowledge of volcanoes, but to monitor Lassen Peak for reasons of public safety. As Jaggar noted, contrary to public perception many of the volcanoes on the West Coast posed a threat of eruption. He referred to the “Lassen Myth” - the complacent belief that the California peak was the only active volcano on the mainland of the United States. “Nothing could be more erroneous,” he insisted.⁴⁹

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. Next to the building were a rain gauge and instrument shelter. Nearby was a cottage residence for the volcanologist provided by the Forest Service.⁵⁰

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,



Observatory located at Mineral for the study of Lassen Peak. The building contained an office on the ground floor and a seismograph in the cement-lined cellar. (Source: R. H. Finch, "An Observatory for the Study of Lassen Peak," *Bulletin of the Seismological Society of America*, 18, 1928: 7.)

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 a two-barrel drive and a rotation rate of the spindle of about 15 minutes, which is slowed down with the appropriate gear.⁵¹

Finch established two auxiliary seismographic stations, one near Manzanita Lake and the other on Mount Harkness. 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.”⁵² Finch also conducted field research, including a study that used dendrochronology to date recent volcanic events at Cinder Cone.⁵³ With C. A. Anderson, he studied the magnetic 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.⁵⁴

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 had geologists been continuously present. 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.⁵⁵

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.⁵⁶ 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*.⁵⁷

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. As the Pacific (ocean) plate collided with the Atlantic (continental) plate in what was called the subduction zone, one plate folded underneath the other and was subducted or melted into the earth’s mantle, causing magma to rise and escape through volcanoes. Subduction zones featured andesitic magma, whereas divergence zones or rifts in the middle of a tectonic plate featured basaltic magma. 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.⁵⁸

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.

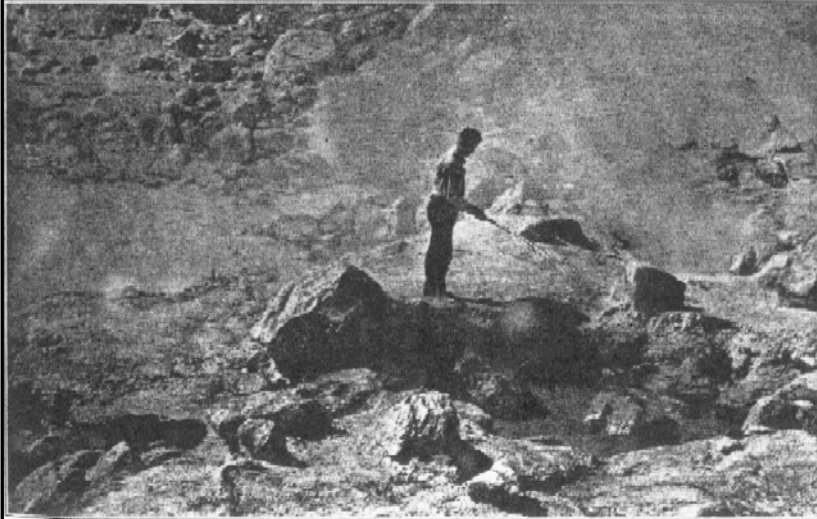
The Volcano Letter

26

NO. 266—Weekly

Hawaiian Volcano Observatory, National Park, Hawaii

Jan. 30, 1930



Bumpass Hell, one of the solfataras with boiling waters, far up the slopes of Lassen Volcano in California. The pool is black because of a scum which covers it consisting of minute particles of sulphide of iron, or pyrite. The observer from Lassen Volcano Observatory is at work immersing a thermometer in the scalding waters. (Photo H. H. Finch, August 26, 1927.)

MUD FLOW ERUPTION OF LASSEN VOLCANO

On May 30, 1914, the old crater depression on top of Lassen Peak, a volcano in northern California, ejected dust and steam, the crater hole enlarged, explosions increased in number during the year, occurring every few days and rarely lasting more than 20 minutes. A big eruption occurred May 19, 1915, which devastated the creeks northwest of the volcano with a mud flood. Three days later, May 22, a much bigger explosion occurred, producing a down-running steam blast which overturned trees and cut a swath through the forest in the same direction as the preceding flood for at least four miles. The explanation of the mud flood has been problematical, as Lassen had no crater lake, as in the case of Mount Pelee in Martinique. Lassen was, however, covered with snow. The resident photographer and creator of the Lassen Museum, H. F. Loomis, believed that both Lassen eruptions gave vent to liquid water from within the mountain, a region of many hot springs, and that the water was followed by steam. (A Pictorial History of Lassen Volcano, Anderson, California, 1926.)

Dispute centers about this water question. Day and Allen (Volcanic Activity in Hot Springs of Lassen Peak, Carnegie Institution) attribute the flow to the melting of snow by the several agencies of hot rain, hot volcanic ash, and a hot blast of gas. Day has shown that the mud flow started some distance below the crater rim. The flood originated in an embayment on the northeast slope of Lassen Peak that was uniformly covered by snow with a depth of several feet over most of the area. (See third picture on page 5).

It is hard to believe that hot water came out of the mountain in such volumes, but the writer agrees with Loomis that the evidence does not indicate the occurrence of a hot blast or any considerable explosion just prior to the mud flow of May 19, 1915 except for a small flood below the western flow of an lava that came out of a notch in the crater, the northeast flood was the only important one of this date. Even if there had been an explosion, any rain accompanying it would probably have been but little warmer than any other rain—certainly not hot. It is also doubtful under the conditions existing on Lassen Peak at

The Volcano Letter. This publication of the Hawaiian Volcano Research Association frequently featured stories on Lassen Peak.

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 world that contain such a diversity of volcanic landforms in such a relatively restricted area as does Lassen Park,” he wrote.⁵⁹

Of the four types of volcanoes, Kane noted, dome volcanoes are most in evidence at Lassen. Lassen Peak itself is a dome volcano – in contrast to all the other Cascade volcanoes with an

elevation of 10,000 feet or greater, which are composite volcanoes (also called strata volcanoes) made of interbedded layers of andesite lava and tephra. Typically, composite volcanoes attain a much larger size than dome volcanoes. Indeed, Lassen Peak is “probably the largest dome-type volcano in the world.” Kane explained:

Most volcanic *domes* are simply cooled masses of rock sealing up once-active volcanic vents. They are produced from highly viscous felsic lavas that are squeezed upward through their vents in an already-semicooled condition.

Many, if not most, would-be domes probably never get built because of the highly explosive nature of felsic magmas once they are extruded onto the surface. Those domes which do attain permanency are generally small and not the most conspicuous landforms in volcanic terrain. . . . The actual solid-rock of the dome is usually not directly visible because of thick, sloping banks of loose boulders called *talus* . . . which hide the extrusion itself and give the volcano an overall conic shape.⁶⁰

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.⁶¹ 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 unmade 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.⁶² 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.⁶³

Lassen Peak's historic eruption continued to hold interest for modern volcanologists. Various reinterpretations of the eruption appeared in the wake of the Mount St. Helens eruption.⁶⁴ The mudflows on Lassen Peak were of particular concern, because the mudflows during the Mount St. Helens eruption had been devastating, heightening interest in the potential hazard of mudflows emanating from Mount Rainier and other Cascade volcanoes. Indeed, Lassen's mudflows of 1915 were small compared to the potential mudflows on higher and more northerly Cascade volcanoes where much greater volumes of snow and ice were present. Studies by Crandell and others indicated that mudflows were the most far-reaching and destructive hydrologic hazard associated with the Cascade volcanoes.⁶⁵

Geologists Donna C. Marron and Julie A. Laudon reconstructed the mudflows of May 19 and May 22, 1915, based on comparison of field survey of mudflow deposits with analysis of historic photos and contemporary accounts. They agreed with earlier studies that there had been a single mudflow on May 19 and two more on May 22, and that the greater extent of the first mudflow indicated that it consisted primarily of melted snow from the mountain's flank. The subsequent mudflows on May 22 were not as extensive because much of the source material had been consumed in the first mudflow. Marron and Laudon found that damage to property in the mudflow of 1915 reached farther downstream than the mudflow deposits that they surveyed in 1985. What this indicated was that only the most heavily

charged portions of the mudflow left behind lasting deposits and that mudflow deposits left by earlier events did not indicate the full extent of those mudflows. The authors also examined older mudflow deposits, some associated with volcanic

activity and some being a result of landslides or other events. The authors concluded that mudflows resulting from eruptions of Lassen Peak posed the “most significant mudflow hazard in most valleys in that area.”⁶⁶

Chapter Seven Notes

¹ William H. Goetzmann, *Exploration and Empire: The Explorer and the Scientist in the Winning of the American West* (New York: Alfred A. Knopf, 1966), pp. 355-357.

² Goetzmann, *Exploration and Empire*, p. 358; Edwin Tenney Brewster, *Life and Letters of Josiah Dwight Whitney* (Boston: Houghton Mifflin Company, 1909), pp. 182-185.

³ William H. Brewer, *Up and Down California in 1860-1864*, edited by Francis P. Farquhar (Berkeley: University of California Press, 1966), p. xv.

⁴ Brewer, *Up and Down California in 1860-1864*, pp. 334-335.

⁵ Brewer, *Up and Down California in 1860-1864*, pp. 458-459.

⁶ Brewer, *Up and Down California in 1860-1864*, pp. 458-460.

⁷ Brewer, *Up and Down California in 1860-1864*, p. 462.

⁸ Goetzmann, *Exploration and Empire*, pp. 435-437.

⁹ Howel Williams, "Geology of the Lassen Volcanic National Park, California," *University of California Publications in Geological Sciences*, Vol. 21 (1931-1932), pp. 207-208.

¹⁰ H. W. Harkness, "A Recent Volcano in Plumas County," *Proceedings of the California Academy of Sciences*, Vol. 5, (1873-74), pp. 408-412.

¹¹ Williams, "Geology of the Lassen Volcanic National Park, California," p. 208; 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. 18.

¹² 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*, (Washington: Government Printing Office, 1879), pp. 209-214.

¹³ Tillman, "Report of Lieutenant S. E. Tillman, ...," p. 213.

¹⁴ Tillman, "Report of Lieutenant S. E. Tillman, ...," p. 213.

¹⁵ J. S. Diller, "Geology of the Lassen Peak District," in J. W. Powell, *Eighth Annual Report of the United States Geological Survey* (Washington: Government Printing Office, 1889), p. 401.

¹⁶ Diller, "Geology of the Lassen Peak District," p. 404.

¹⁷ Diller, "Geology of the Lassen Peak District," pp. 430-432.

¹⁸ Stephen L. Harris, *Fire Mountains of the West: The Cascade and Mono Lake Volcanoes*, (Missoula: Mountain Press Publishing Company, 1988), p. 59.

¹⁹ Aubrey Bieber manuscript, no date, Shasta Historical Society, Redding, California, p. 38.

²⁰ Bieber manuscript, p. 40.

²¹ Bieber manuscript, pp. 41-42.

²² Bieber manuscript, p. 43.

²³ Harris, *Fire Mountains of the West*, p. 61; Arthur L. Day and E. T. Allen, *The Volcanic Activity and Hot Springs of Lassen Peak*, (Washington: Carnegie Institution, 1925), Plate 1; B. F. Loomis, *Pictorial History of Lassen Volcano*, (Mineral, California: Loomis Museum Association, 1947, second edition), p. 12.

²⁴ Quoted in Harris, *Fire Mountains of the West*, p. 60.

²⁵ Mazie Phelps Sanders, "Mt. Lassen Came to Life," *The Covered Wagon* (Redding, California: Shasta Historical Society, 1975), p. 58; see also Sanders interviewed by Ann Emmons, Historical Research Associates,

January 2000. Transcript on file with the National Park Service, LAVO; Strong, *Footprints in Time: A History of Lassen Volcanic National Park*, p. 40.

²⁶ Quoted in Day and Allen, *Volcanic Activity and Hot Springs of Lassen Peak*, p. 10.

²⁷ Harris, *Fire Mountains of the West*, p. 64.

²⁸ 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. 34-35.

²⁹ Day and Allen, *The Volcanic Activity and Hot Springs of Lassen Peak*, p. 14.

³⁰ Harris, *Fire Mountains of the West*, p. 66.

³¹ Quoted in Harris, *Fire Mountains of the West*, p. 66.

³² Harris, *Fire Mountains of the West*, p. 67.

³³ Emma E. Wilcox, "Mt. Lassen Eruption and Hat Creek Flood," *The Covered Wagon*, (Redding, California: Shasta Historical Society, 1951), pp. 36-37.

³⁴ Day and Allen, *The Volcanic Activity and Hot Springs of Lassen Peak*, p. 18.

³⁵ G. R. Milford to Charles Coleman, May 5, 1947, Lassen Volcanic National Park vertical file, Tehama County Public Library.

³⁶ Harris, *Fire Mountains of the West*, pp. 69-70.

³⁷ Day and Allen, *The Volcanic Activity and Hot Springs of Lassen Peak*, p. 25; J. S. Diller, "Lassen Peak—Our Most Active Volcano," *The Bulletin of the Seismological Society of America*, Vol. 6, No. 1 (March 1916), p. 5.

³⁸ Loomis, *Pictorial History of the Lassen Volcano*, p. 64.

³⁹ Ruliff S. Holway, "The Volcanic Activity of Lassen Peak, California," *The Popular Science Monthly*, Vol. 86 (January to June 1915), pp. 296-298; Ruliff S. Holway, "Preliminary Report on the Recent Volcanic Activity of Lassen Peak," *University of California Publications in Geography*, Vol. 1, No. 7 (August 7, 1914), pp. 307-330.

⁴⁰ Harris, *Fire Mountains of the West*, p. 72.

⁴¹ Harris, *Fire Mountains of the West*, p. 72.

⁴² Scientists have since documented Mt. St. Helen's eruption in the 1850s. Lassen Peak, therefore, was not the only eruptive volcano in the contiguous United States in historic times.

⁴³ Howel Williams and Alexander R. McBirney, *Volcanology* (San Francisco: Freeman, Cooper & Co., 1979), pp. 16-17.

⁴⁴ Williams and McBirney, *Volcanology*, p. 16.

⁴⁵ On the comparison with Mount St. Helens see Dick Thompson, *Volcano Cowboys: The Rocky Evolution of a Dangerous Science* (New York: St. Martin's Press, 2000).

⁴⁶ Williams and McBirney, *Volcanology*, p. 16.

⁴⁷ Williams, "Geology of the Lassen Volcanic National Park, California," p. 195.

⁴⁸ Fred M. Bullard, *Volcanoes in History, Theory, and Eruption* (Austin: University of Texas Press, 1962), pp. 27-28.

⁴⁹ *The Volcano Letter*, No. 266, January 30, 1930, p. 3.

⁵⁰ 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.

⁵¹ *The Volcano Letter*, No. 115, March 10, 1927, p. 115.

- ⁵² Quoted in Williams, "Geology of the Lassen Volcanic National Park, California," p. 213.
- ⁵³ 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.
- ⁵⁴ 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.
- ⁵⁵ Williams, "Geology of the Lassen Volcanic National Park, California," p. 212.
- ⁵⁶ Paul E. Schulz, *Geology of Lassen's Landscape* (Mineral, California: Lassen Volcanic National Park, 1959).
- ⁵⁷ Philip S. Kane, *Through Vulcan's Eye: The Geology and Geomorphology of Lassen Volcanic National Park* (Mineral, California: Loomis Museum Association, 1980).
- ⁵⁸ 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.
- ⁵⁹ Kane, *Through Vulcan's Eye*, p. 36.
- ⁶⁰ Kane, *Through Vulcan's Eye*, p. 36.
- ⁶¹ Theodore Catton, *Wonderland: An Administrative History of Mount Rainier National Park* (Seattle: National Park Service, 1996), p. 640.
- ⁶² Catton, *Wonderland*, p. 641.
- ⁶³ Newspaper clipping, December 21, 1976, Lassen Volcanic NP vertical file, Tehama County Public Library.
- ⁶⁴ Dean B. Eppler, "The Lassen Peak Eruptions of May 19 and 22, 1915; modern investigations and interpretation," *Geological Society of America*, Vol. 16, No. 6 (September 1984), p. 502; Dean B. Eppler, "The May 1915 eruptions of Lassen Peak; II, May 22 volcanic blast effects, sedimentology and stratigraphy of deposits, and characteristics of the blast cloud," *Journal of Volcanology and Geothermal Research*, Vol. 31, No. 1-2 (March 1987), pp. 65-85; Stephen L. Harris, "The other Cascade volcanoes; historic eruptions of Mount St. Helens' sister peaks," in *Mount St. Helens; Five Years Later*, edited by Sarah A. C. Keller (Cheney: Eastern Washington University Press, 1986), pp. 20-23; Robert L. Christiansen and Michael A. Clynne, "The Climactic Eruptions of Lassen Peak, California, in May 1915," *Transactions, American Geophysical Union*, Vol. 67, No. 44 (November 1986), p. 1247.
- ⁶⁵ Donna C. Marron and Julie A. Laudon, "Susceptibility to Mudflows in the Vicinity of Lassen Peak, California," in *Selected Papers in the Hydrologic Sciences*, USGS Water Supply Paper 2310 (Washington: U.S. Geological Survey, 1986), p. 97. In particular, Mount Rainier drew attention due to its huge ice cap that constitutes the headwaters of several populous river valleys.
- ⁶⁶ Marron and Laudon, "Susceptibility to Mudflows in the Vicinity of Lassen Peak, California," p. 105.

Chapter Eight

Early Recreational Use of Lassen Peak



any 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*.¹ 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 nineteenth-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.

The tourist is not simply a twentieth 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, Historian Earl Pomeroy wrote, as “the spring lamb or winter wheat”), the tourist was often also a source of pride – an eastern or European visitor affirming the worth and validity of a western and uniquely American place – and often also a potential investor in and future resident of nascent western communities.² More recently, historian Hal Rothman has defined tourism as a devil’s bargain, introducing a measure of economic stability while also having the potential to transform local culture and infrastructure.³

Throughout much of the tourist west, nineteenth and early twentieth century travelers arrived by rail, from the eastern states. 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.⁴ 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 or cultural environments.⁵ In large part, western residents camped, escaping the heat of the low-land valleys by journeying to the mountains or the shore where they spent long weeks fishing, harvesting berries, or relaxing.⁶

By the 1880s, westerners were camping in great numbers. 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 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.⁷



“Self Contained RV,” 1920. (Source: Negative #355, Historic Photograph Collection, LAVO.)

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 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.”⁸

By ca. 1900, area chambers 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.⁹ Increasingly, Shingletown and Chester were known not as “lumbering towns” but as “lumbering and resort towns,” where scenery, hunting, and fishing were marketable commodities.¹⁰

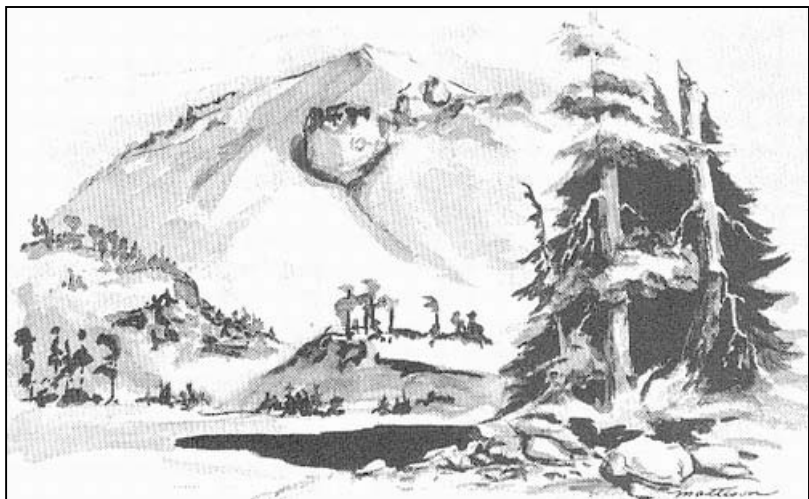
The most dramatic scenery and impressive destination proved the summit of Lassen Peak. A summit excursion, in the mid-nineteenth century, required several days and a considerable outfit.¹¹ A prospector-tourist, G. K. Godfrey took a side trip to Lassen Peak while on a prospecting expedition with nine 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.”¹²

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.”¹³

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, Redding, 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.¹⁴ 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



Lake Helen. (Source: Matteson, *Lassen Trails*, Loomis Museum Association, 1963.)

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.¹⁵

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.¹⁶ 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.¹⁷

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.¹⁸ 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 respite 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.¹⁹

One other party of campers shared the valley, identified as six miles from “Lawson’s Butte” [sic] in the Mill Creek drainage, an area soon known as Morgan Hot Springs.²⁰ Yet a third party camped in a second valley $\frac{3}{4}$ 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 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.²¹

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 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." (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 [see Chapter Five]).²² Reflection Lake froze smooth and clear in the winter, and generations of area children tell of winter skate parties.²³ In 1944, Lassen Volcanic National Park administrators concluded that the Manzanita Lake region had been continuously used for recreation for almost a century.²⁴

The Built Environment: Transportation

By circa 1920, after 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



Day's Rim Rock Ranch, Old Station California, no date. (Source: Classification # 442, Negative # 1037. Historic Photo Collection, LAVO.)

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.²⁵

Additional secondary access roads included the Butte Lake/Cinder Cone Truck Trail, the Juniper Lake Road, the Twin Lakes Truck Trail and the Badger Flats Truck Trail (which roughly followed the course of the historic Nobles Trail); and the "Manzanita Lake Motorway," a low-standard one-way road constructed by Mr. Loomis ca. 1920, connecting Manzanita Lake with the Devastated Area. 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.²⁶ "Pack trails" included those from Mineral/Battle Creek 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 Bumpas Hot Springs.²⁷

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. Conard, spearheaded the financing of road construction, expansion of the road system, and conservation efforts central to extensive and profitable development of the area as a scenic playground (see Chapter Six).²⁸

The Built Environment: Accommodations

Although camping predominated, rustic accommodations were available in the Lassen vicinity, most constructed as off-shoots of settlement ventures and all but the Manzanita Lake Lodge and Drakesbad located outside the park, where reduced snowfall and gentler topography eased visitor access and use. In 1944, park superintendent James Lloyd reported that accommodations north of Lassen Peak, excluding the NPS-operated Manzanita Lake Lodge complex (see Chapter Nine), 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 Chapter Nine).

Drakesbad Resort

Alexander Sifford's trip to the hot springs at William Drake's homestead, in search of a cure from stress and general malaise, ultimately ended in development of the sole concession within the southeast corner of the park. This evolution, from agricultural claim, to limited and non-profit recreational use, to for-profit recreational development, mirrors that found throughout the scenic west. In his first visit to Drake's, in 1900, Sifford camped for free near the creek, and took his meals with Drake who appeared glad for the company. Drake had entertained other visitors in the preceding years and, at the time of Sifford's visit, was in the process of constructing a hotel. Sifford toured the Devil's Kitchen – “about forty achers [sic] of boiling springs, small geysers, mud pots and steam gushing,” Boiling Lake – “another splendid exhibit,” a leaping geyser – “formerly named after my little blue-eyed daughter Pearl . . . now called Terminal Geyser,” and Willow Lake – “another natural curiosity.” By the end of the week, a rejuvenated Sifford was “deeply impressed,” not only with the beauty of the place, but also with its

healing properties and its “future possibilities.” He secured an option for purchase from Drake and returned to Susanville where he settled his accounts, piled “household goods, a dozen hens, a red rooster, a little Shepherd bitch, a cat, [his] wife and babies, a pick, shovel, ax, and a few other tools . . . on an old spring wagon” and started back to Drake Springs “with fortune or failure on [his] hands.”²⁹ In a series of interviews with Lassen ranger Les Bodine, Sifford's son Roy recounted hard work, long days, memorable clients, and the fortune of good health and modest profit. Ultimately, improvements at Drakesbad were sufficient to accommodate 50 guests and included the main lodge; dining hall/kitchen; two duplexes; 4 single cabins; 10 tent platforms; cooks quarters; outhouses; swimming pool; bath house; hay barn; tack shed; and two storage buildings (one of which also provided employee housing).³⁰

Visitors returned often to Drakesbad, summer after summer, for generations.³¹ These visitors included California Congressman John E. Raker, a man instrumental to creation of Lassen Volcanic National Park (see also Chapter Six). Roy Sifford notes the importance of Drakesbad and its proprietors to Raker's inspiration and resolve:

John E. Raker was a relative of ours, reared in the same country, got the best part of his education with us, in the school of hard knocks. Drakesbad was his favorite vacation ground. . . . We persuaded him to introduce a bill, making the Lassen Peak region into a park.³²



Cabins at Olmsted's, Old Station, California, no date. (Source: Classification # 442, Negative # 1036. Historic Photo Collection, LAVO.)

Chapter Eight Notes

¹ 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.

² 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 more recent 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). Rothman focuses on the cultural and physical dislocation inherent in those communities inspired or compelled by economic interest to conform to outsiders' expectations and demands, expectations and demands placed not only on a community's aesthetic but also on local inhabitants' behavior. 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).

³ Rothman, *Devil's Bargains. Tourism in the Twentieth-Century American West*.

⁴ Rothman, *Devil's Bargains. Tourism in the Twentieth-Century American West*, pp. 37-49.

⁵ Pomeroy, *In Search of the Golden West*, pp. 139-141.

⁶ Pomeroy, *In Search of the Golden West*, p. 141.

⁷ 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.

⁸ Cummings, "The World's Wonderlands," quoted in Pomeroy, *In Search of the Golden West*, p. 142.

⁹ 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).

¹⁰ 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, Western Archeological and Conservation Center (WACC).

¹¹ With completion of the Lassen Park Highway 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, Lassen Volcanic National Park, Mineral, California, p. 1.

¹² G. K. Godfrey, "Lassen's Peak," *Hutchings' California Magazine*, Vol. 14 (1859-60), pp. 299-300.

¹³ Godfrey, "Lassen's Peak," p. 302.

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

¹⁵ Harry Noyes Pratt, "A Woman Pioneer on Lassen's Peak," *Overland Monthly and Out West Magazine*, Vol. 82, No. 11 (November 1924), p. 524.

¹⁶ 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.

¹⁷ "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.

¹⁸ 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.” 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.

¹⁹ Fannie to Mama, August 27, 1864.

²⁰ 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).

²¹ Edna Shelton Saygrover, “A Trip to Mount Lassen in 1903,” *The Covered Wagon* (Redding: Shasta Historical Society, 1962), pp. 39-46.

²² 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.

²³ Pam Koeberer Pitt, interviewed by Ann Emmons, Historical Research Associates, Inc., February 2002. Transcript on file with the National Park Service, LAVO.

²⁴ Frank and Chappell, *The History and Business Directory of Shasta County*, “Natural Curiosities,” p. 2.

²⁵ Colburn, *The Kingship of Mt. Lassen*. p. 40.

²⁶ 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..

²⁷ Anonymous, “Final Construction Report on Bumpas Hell Trail Construction, Account 531,” no date (ca. 1933). LAVO Collection, WACC.

²⁸ George E. Goodwin, Chief Civil Engineer, National Park Service, “Preliminary Report,” quoted in Colburn, the *Kingship of Mt. Lassen*, pp. 66-69.

²⁹ Alexander Sifford to Harry Robinson, Park Naturalist, February 14, 1946, File: History, LAVO Collection, WACC.

³⁰ James A. and Richard R. Hopper, “Appraisal of Sifford Properties in Lassen Volcanic National Park,” July 15, 1952, File: Inholdings, LAVO Collection, WACC; Alexander Sifford to Harry Robinson, February 14, 1946, File: History, LAVO Collection, WACC, p. 8.

³¹ Koeberer Pitt, February 2002.

³² Quoted in Strong, *Footprints in Time*, pp. 47-48.

Chapter Nine

Park Administration and Development

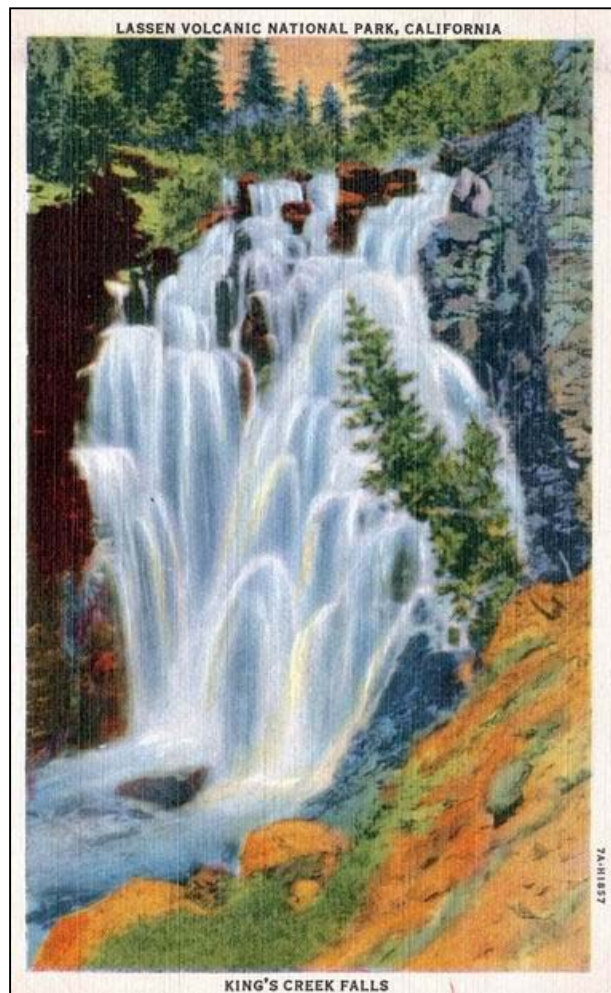


assen Volcanic National Park enabling legislation, approved by Congress on August 9, 1916, established that the park would be under the exclusive control of the Secretary of the Interior. To the secretary fell responsibility for development and implementation of laws and regulations providing for the “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.¹

On January 19, 1929 park boundaries were adjusted modestly to include additional areas of scenic value, and 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 1987.²

The dearth of existing infrastructure at the time of park creation and the relative absence of

significant boundary adjustments have all resulted in striking consistency in infrastructure patterns: Today, as historically, the Lassen Volcanic National Park Highway (NPS Route 1) 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 remains undeveloped save foot and pack trails, as it did throughout the early settlement period. The “primitive” character of this wild land was formally recognized in 1972 with Congressional designation of the Lassen Volcanic Wilderness Area.³



Park Superintendent Leavitt would 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.⁴ Park management plans, as first 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 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).⁵

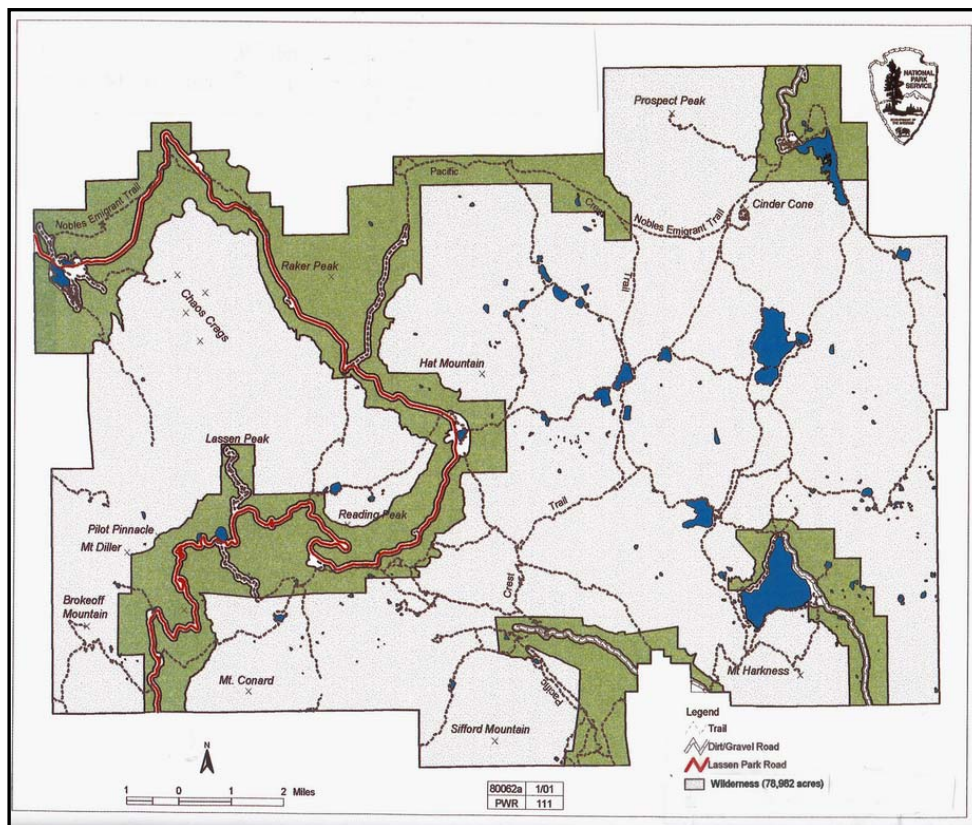
Development

Initial Development, 1916-1931

From 1916 until 1925, the nascent Lassen Volcanic National Park was largely administered from Yosemite and patrolled by the United States Forest Service (USFS).⁶ 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 the park’s future. Ca. 1926, 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



Lassen Volcanic Wilderness Area, established 1972. (Source: USDI NPS, General Management Plan and Final Environmental Impact Statement, Lassen Volcanic National Park, 2001.)

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.⁷

Only privately owned lands, or inholdings, smudged this blank 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.⁸ Twenty years later, park administrators would echo that first warning writing that “[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.”⁹

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



Summit Lake Campfire Circle, no date. (Source: Negative #168. Historic Photo Collection, LAVO.)



Juniper Lake Resort Cabins, 1952. (Source: Classification # 890, Negative # 1600. Historic Photo Collection, LAVO.)



building. 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.¹⁰ Finally, the park was noted to contain impressive scenic features, "in the form and magnitude . . . of [its] peaks and in the beauty of associated lakes and forests."¹¹

Praise for the interpretive potential of those resources within the park did not equate directly to unstinted praise for the adequacy of park boundaries. A concurrent study group, led by NPS Chief Landscape Engineer Thomas Vint, argued that a "complete" national park should include all of the features of the region, sufficient to "properly show the volcano as an intrusion into older formations" and sufficient in size to provide visitors with the element of surprise and anticipation.¹² The 1929 boundary adjustment resulted from this study (see above). In 1939, a third committee studying the advisability and feasibility of additional park expansion reported that spatter cones, chimneys, caves and tubes (as seen near the northwest base of West Prospect Peak) were not represented in the park. The Hat Creek Fault was not included; nor stands of old growth Ponderosa Pine; nor the spectacular Hat Creek Falls and Hat Creek Gorge; nor the full extent of Loomis Peak, Brokeoff Mountain, Black Butte, and other features that would add ecological "completeness" to the park. These truncated 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: "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," the committee wrote.¹³ Lassen Volcanic National Park presented a virtually blank slate because it had been carved

from largely inaccessible land, used lightly and seasonally, promising no great wealth.¹⁴

Principal Features of the Park: Making them Intelligible

Americans' long-standing faith in natural settings' capacity to serve as church and classroom – given means of access and use – link the interpretive, development, and preservation programs. This faith was a pronounced factor in establishment of the National Park Service. Relative consensus on the value of outdoor travel and outdoor recreation, however, has never led to relative consensus on the most effective means of realizing or exploiting that value – whether through the careful conservation of pristine environments or the concerted development of recreational opportunities and means of access. Within Lassen, as in all national parks, examples of this debate abound, from the struggle over park creation and proper park boundaries, to ongoing struggles over the proper extent and character of development, the value and designation of wilderness in contradistinction to developed zones, and the acquisition of private land for public benefit.¹⁵

As defined by the Education Committee, the task of interpreting park resources for the public and of providing recreational opportunities contained multiple elements, including acquisition of data through consultation with specialists and through study; determination of the most-effective means of presenting that data to the public in order to educate and to stimulate curiosity; and recognition of the visitor's right to maximum opportunity to form his or her own judgments absent excessive literature or guides. The interpretive prospectus cautioned, "It should be the objective of the naturalist to make the reality of the region visited impress itself upon the visitor and stimulate his thinking."

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.¹⁶ In 1936, under the direction of naturalist Dr. Carl R. Swartzlow, a Native American component was added to the education program.¹⁷



Lassen Volcanic National Park, Principal Features, 1939. (Source: Classification # 850, Negative # 1518. Historic Photo Collection, LAVO.)

Means of presenting data – whether related to geology, biology, or, after 1936, archaeology and ethnography – 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.¹⁸ (Only

recently, as it nears its 90th birthday, has the park secured approval and funding for an Interpretive Center, to be constructed near the Southwest Entrance.)

Principal Features of the Park: Making them Accessible

Principal features thus identified and interpretive themes broadly defined, 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.¹⁹

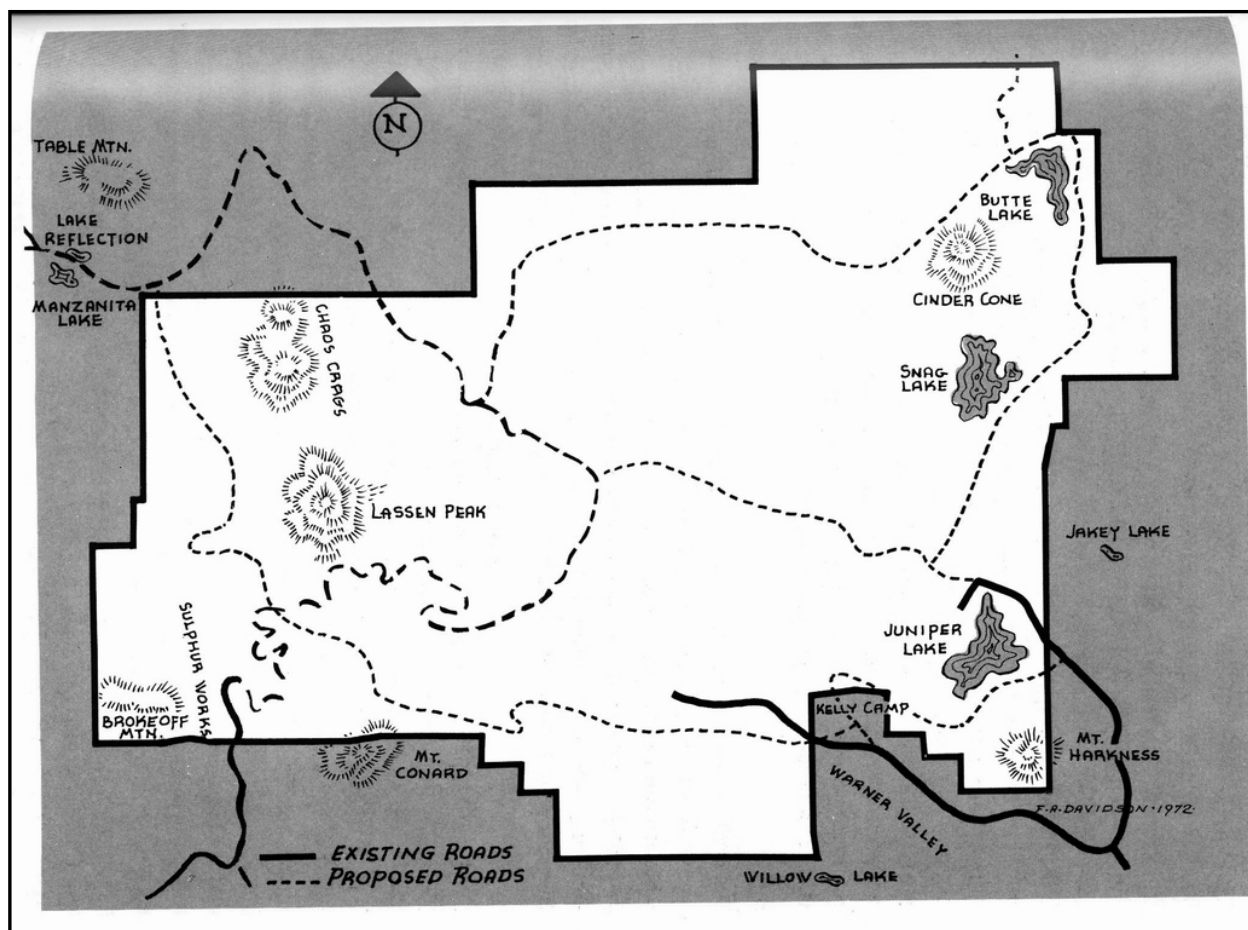
Protection of the resources themselves – from fire, vandalism, visual interference with views and viewsheds, habitat disruption – was an inherent underlying component of this development plan.²⁰ Moreover, while points of scenic beauty were not considered principal park features (scenic beauty not being 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).²¹

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; old Forest Service telephone lines, built as part of their patrol and fire-prevention network (see Chapter Five); and rough trails from Mineral to the summit of Lassen Peak, along Kings Creek/Black Butte by way of Cold Boiling Lake, from Drakesbad to Lassen Peak, and from Lake Helen to Bumpas Hot Springs. (These trails, park administrators wrote, were “nothing more than mere paths. . . following the path of least resistance, . . . rocky and rough, and very steep.”)²²

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; 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; a wagon road from Morgan Springs to Sulphur Works, constructed by Mr. Supan, initial developer of the Sulphur Works, and later incorporated within the Lassen Park Highway; and the Manzanita Lake Motorway constructed by Ben Loomis to connect the lake with the Devastated Area, also later incorporated within the Park Highway.²³ Though predating park designation, these roads “provided for needed access to areas in a manner agreeable with Service policy.”

The first generation of NPS resources built as the foundation for subsequent growth would include a small administrative center at Mineral, destined to be significantly expanded in the coming decade; ranger’s station at Summit Lake and the Warner Valley; the Mt. Harkness Lookout; and – of greatest importance – a “through road,” linking the southwest corner of the park with Manzanita Lake and skirting the south slope of Lassen Peak.

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.²⁴ Construction of all other associated resources, including trails, campgrounds and picnic areas, was delayed until road completion: “The construction of new trails would not seem practical,” Acting Superintendent Collins wrote in 1926, “until the highway is completed.”²⁵ Upon this completion, NPS sponsored development realized during the 1930s would be concentrated at designated road-side



Proposed Road System, 1922. (Source: Douglas H. Strong, *Footprints in Time. A History of Lassen Volcanic National Park*, p. 60. Permission for use secured.)

“Developed Areas” – Manzanita Lake, Summit Lake, the Southwest Entrance Area, Mineral Headquarters, Butte Lake, Warner Valley, Juniper Lake – and at “zones of roadside influence.”²⁶

Road System

Completed in 1929, the highway 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, 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

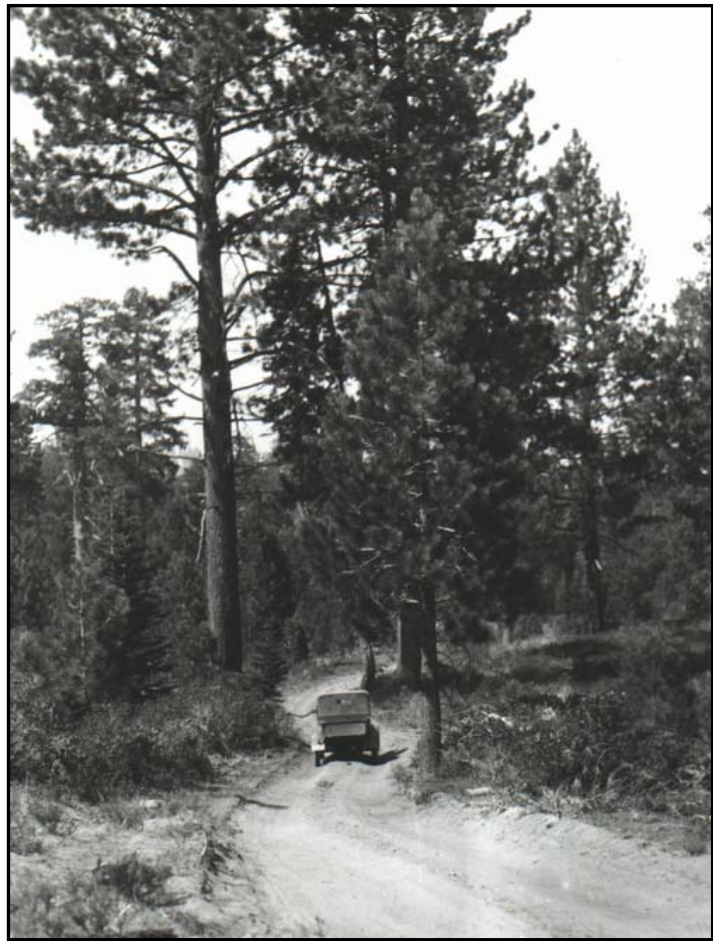
(connecting to Mineral), along the existing Supan Wagon Road, thence along the southern and eastern flanks of Lassen Peak to Manzanita Lake, connecting with Forest Highway 77 at the Viola/Burney Wye, a total distance of 30.4 miles. This route was formalized in subsequent surveys in 1923 and 1924. In 1929, by an Act of Congress, the Park Boundary was extended to the northwest to incorporate Manzanita and Reflection lakes and a volcanic wasteland called “The Jumble.” 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.²⁷

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.²⁸

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

Beginning in 1920, continuing through the 1950s, Park Service officials debated the merits of a through road between Summit and Juniper Lakes, effectively linking the east and west halves of the park, providing a third main entrance to the park, “add[ing] to the travel season by providing a road through the Park with a connection with the Loop Highway north of and some 1500 feet below the elevation of the Loop road at Lassen Peak,” and opening “well-forested country” to visitor travel – country that would stand in welcome contrast to the “rugged volcanic and glaciated” area opened by the Lassen Park Highway. Despite its avid supporters, the road was never built, a response to inadequate funding, the high cost and difficulty of purchasing private inholdings along the road course, and concerns – voiced most importantly by Stephen Mather and Horace Albright – that there was “insufficient justification for thus encroaching on the wilderness area on the east side of the park.”²⁹

Additional construction efforts during the 1920s were concentrated at Mineral Headquarters, 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



Old Lost Creek Road, 1930. (Source: Classification # 441, Negative # 964. Historic Photo Collection, LAVO.)

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.³⁰ Though completed during the Depression 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 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.

This limited 1920s development reflected the limits of park administrative staff. Through ca. 1925, permanent staff was limited to a park ranger and chief clerk and winter headquarters were located in Red Bluff. “Essentially,” reports long-time ranger Lester Bodine, the park was administered from Yosemite.³¹

Additional administrative facilities completed by 1930 included the Warner Valley Ranger Station (1927), the Summit Lake Ranger Station (1927), the Mt. Harkness Fire Lookout (1930), and telephone and trail communication between these back-country facilities and Mineral Headquarters.

Years of Growth, 1932-1941

Despite these initial efforts, the general outlines of the Education Committee’s plan of operation would not be fully realized until the Depression era when in the face of the apparent economic and social failure of the industrial revolution President Roosevelt presided over a powerful “back to the soil” movement that embraced the moral and physical benefits to outdoor recreation and committed significant federal funds to the construction of National Park and National Forest facilities.³² Within this context, Landscape Architect Ethan Carr argues, opportunities for outdoor recreation and education “[were] described as vital to the future well-being of the nation, just as the conservation of natural resources had been characterized a generation earlier.”³³ Most of Lassen Volcanic National Park’s administrative and tourist facilities date to these years of growth.

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. This period of expansion ended abruptly in 1941 when the National Park Service curtailed new development in response to wartime austerity measures.³⁴ 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.”³⁵ As part of this program of consumption and employment, Congress channeled special allotments to fund capital improvements in the national parks. 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



CCC Camp, Boundary Springs, 1937. (Source: Classification # 442, Negative # 1019, Historic Photo Collection, LAVO.)

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.³⁶ 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.³⁷

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 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.³⁸

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.³⁹

If only briefly, two CCC camps operated from Lassen Volcanic National Park, one at Boundary Springs/Devastated Area (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. (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 1.⁴⁰) During the 1934 season, both camps enrolled 188 men, with older men (war veterans) stationed at Boundary Springs and “boys” stationed at Sulphur Works.

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).⁴¹

Each camp assumed responsibility for maintenance and repair of a section of the Lassen Park 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.

Resources constructed by the CCC fell into two broad categories – administrative and tourist facilities, which in turn conformed to initial development goals to develop; interpret; and protect.

The Depression Era Home Front



A map of the United States published in 1932 by the Corps of Engineers shows the location of the camps established at that time for the work of the Civilian Conservation Corps. It is unlike any other map save those which showed the various theaters of action in Europe during the World War. Here ‘the Front’ is in every state. Masses of small red circles flank the Pacific slopes of the Cascades and the Sierras from the Canadian boundary to the Mexican border; another attenuated mass follows the continental divide of the Rockies, with outlying circles in the Great Basin, in Arizona and New Mexico; the great and vast Mississippi Valley is dotted from the Lake of the Woods on the International Line almost to the suburbs of New Orleans; and in the East the red circles follow the whole Appalachian Range from Northern Maine to Northern Georgia fanning out all over the coastal plains of the Southern States. There are 1,500 red circles each representing a camp site occupied by 200 men! This is realism! This is action!

Source: Arthur C. Ringland, “Conserving Human and Natural Resources,” interview with Amelia R. Fry, Edith McZirow, Fern, Ingersoll, and Thelma Dreis, Berkeley, California, 1970. Transcript on file at the Bancroft Library, University of California, Berkeley, p. 183.

Civilian Conservation Corps Projects, 1933.

Project	Camp
Flattening and Rounding of slopes, adjacent to Lassen Park 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 (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 Park Highway Realignment, Sulphur Works to Southwest Checking Station ¹	Boundary Springs
Bumpas 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
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
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.	
2. Constructed by "a small crew of picked men."	

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

Administrative Resources

Administrative facilities constructed during the 1930s included a new ranger station at Butte Lake and Horseshoe Lake and expanded stations at Warner Valley, and Summit Lake. ECW and CCC crews also constructed a park naturalist residence and office at Manzanita Lake, patrol cabins at Lake Helen and Lower Twin Lakes; and entrance stations at the southwest and northwest entrances to the park, adjacent to the Lassen Park Highway. Over the years, future administrative centers would be contemplated only at Juniper Lake.⁴²

Tourist Resources

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 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, 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 to operate the B.F. Loomis Photo and Art Store. The museum would be run by the National Park Service.⁴³

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 NPS Route 1 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 it’s [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.”⁴⁴ 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 the best of the view points 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 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.”⁴⁵ 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.⁴⁶ In addition, administrative trails and destinations, constructed for the purpose of fire control or range management, also did double duty as tourist trails. Of the new trail to Mt. Harkness Lookout, completed in 1930, the Park Service wrote “although primarily designed for fire

detection purposes, Mt. Harkness will undoubtedly be one of the most popular points of interest in the park to the visiting public, it being easily accessible by a good trail from Juniper Lake.”⁴⁷

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.⁴⁸

In addition, a ski area, constructed in 1934 following completion of the Lassen Park 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.”⁴⁹ 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

Campfire Circle, ca. 1952

1. They should be completely devoid of the vaudeville element, which is always unpredictable, often hard to control, and may be of poor quality, and in bad taste.
 2. While participation by audience amateur talent is to be discouraged, participation through group singing and in the informal posing of questions to the naturalist about the area and its natural and human history is desirable.
 3. The length of campfire programs should be not over one hour out of consideration for audience comfort, and length of the normal attention span. . . .
- . . . At Lassen Volcanic, we have devised what we believe to be the best compromise between the two plans of which I have spoken. Picture the circular campfire plan, and then inter-change the locations of the central fire with the segment of seats behind the conducting naturalist. This eliminates the “dead spot” and still leaves the feeling of “sitting around the campfire.” The screen is behind the audience, a portion of which will do a “turn-about” to view the projection screen during the later portion of the program.

Source: I.N. Paul E. Schulz, Park Naturalist, Lassen Volcanic National Park, “Talk for Training Institute for Park Naturalist for the California Division of Beaches and Parks held at Calaveras Big Trees State Park, June 17, 1952, File 501.04, Box 52, RG 49, NARA, San Bruno.

Riding on Park Trails, 1941.

(Source: Classification # 540, Negative # 1158. Historic Photo Collection, LAVO.)



enjoyment.”⁵⁰ Preston clearly was aware of the contradiction between the park’s mission to protect the land while still making it accessible and enjoyable to the greatest number of people and his report portends 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 Lassen Peak with great fondness.⁵¹

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.⁵²

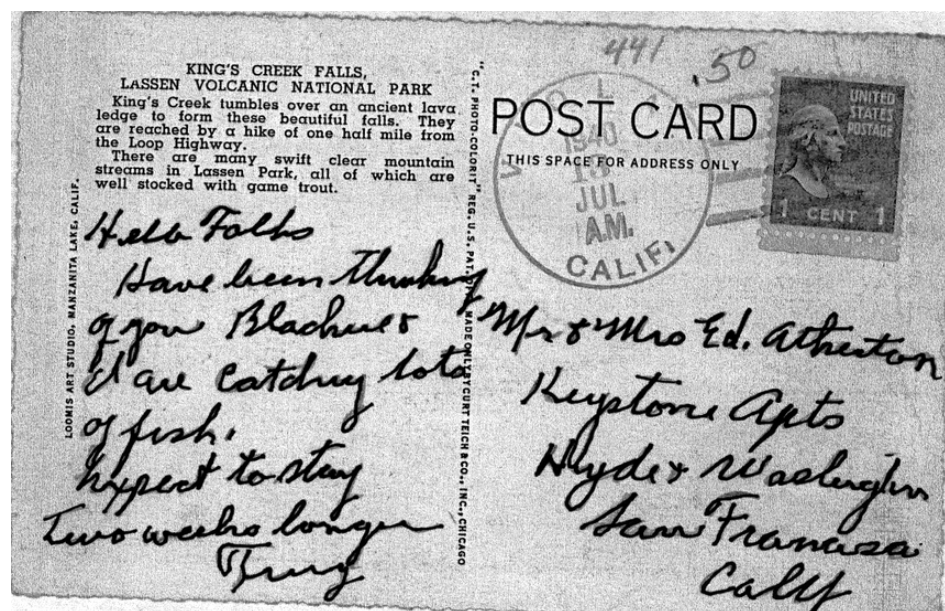
Other recreational opportunities required less concerted effort on the part of Park Service construction crews. “You may swim in any lake in the park,” employees told curious travelers, “but Reflection Lake is too full of aquatic growth to be safe or pleasant. Manzanita, Summit, and Crumbaugh Lakes are good; the last two are warmer. Bathtub Lakes near Butte Lake Ranger Station are ideal for swimming.”⁵³ “Excellent skating” was available on Reflection Lake during the winter months, and sledding hills abounded. Excepting a brief trial-use period, snowmobiles have never been allowed in the park, ample opportunity being provided, the Park Service argued, on surrounding Forest Service land.⁵⁴

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.⁵⁵ 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).⁵⁶

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.”⁵⁷ (Not until the post World War II period, when visitation numbers increased dramatically, 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 park campgrounds.)



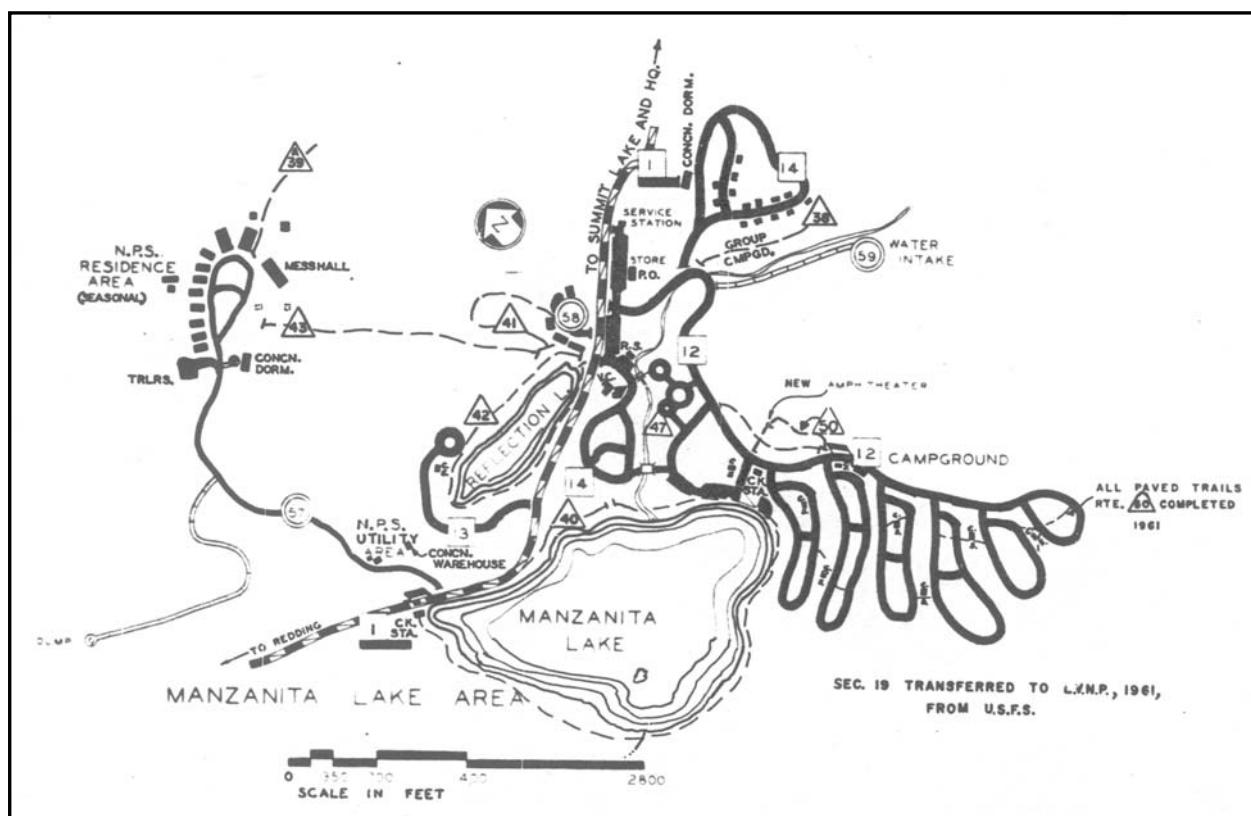
Lodging

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 Park 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 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.⁵⁸ 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



Manzanita Lake Development Area, height of development, 1964.
(Source: Drawing, NP-LV, 3009-0, Technical Information Center, Denver.)

Manzanita Lodge, 1964

Manzanita Lake Lodge is the largest, best-equipped, and most comfortable place to stay in Lassen. The main rustic building contains a lobby, a curio section, cocktail lounge, and dining room. The meals are above average, attractively served, and reasonably priced.

The Lodge has a variety of cabins, tents, and cottages, ranging from \$8.00 to \$10.00 for one, and from \$9.00 to \$12.00 for two. Most luxurious are the hotel bungalow bedrooms; most economical the standard bedrooms. For a family (limited to 6 persons) that wishes the best in housekeeping accommodations, the Pine Cottages offer excellent facilities for \$21.00 a day. These contain a bedroom with double beds, a sitting room with a hideaway bed, and a kitchen equipped with an electric range and refrigerator as well as all cooking utensils and a table setting for four. If you prefer something less expensive, lower-priced housekeeping type cabins are available.

Source: Dorr Yeager, "National Parks in California," *A Sunset Travel Book* (Menlo Park California: Lane Book Company, 1964), p. 80.

comfortable place to stay in Lassen, with housekeeping cabins (complete with kitchen and "pleasing in appearance and satisfactory in use"⁵⁹), small two- and four-room cabins with shared baths, and bedrooms within the main lodge ("the most luxurious" rooms of all).⁶⁰ 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.⁶¹

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.")⁶² 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.⁶³

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 successful 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).⁶⁴

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. 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."⁶⁵

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.⁶⁶ 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.



Sulphur Works, Supan Buildings, winter 1950-1951. (Source: Classification # 442, Negative # 1978. Historic Photo Collection, LAVO.)

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.⁶⁷

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."⁶⁸ 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 dominant national park traffic. Ultimately, the railroad declined to invest in Juniper Lake development and no rail-hotel network was constructed.⁶⁹ Lassen would remain "The Camping Park."

"Skimmed Milk"

"We have found in the national parks that in order to secure the investment of capital in hotels, lodges, saddle horses, etc., we had to use as an inducement for investment in these facilities permission to operate automobile transportation. In other words it has been our experience that automobile transportation is the "cream" and that the other enterprises for accommodation are more or less "skimmed milk" – and extremely thin milk at that!

Source: The Director to Hon. Harry L. Englebright, M.G. Nevada City, California, September 3, 1931. Unaccessioned Historical Material, LAVO.

National Park Service Rustic Architecture and the Master Planning Process⁷⁰

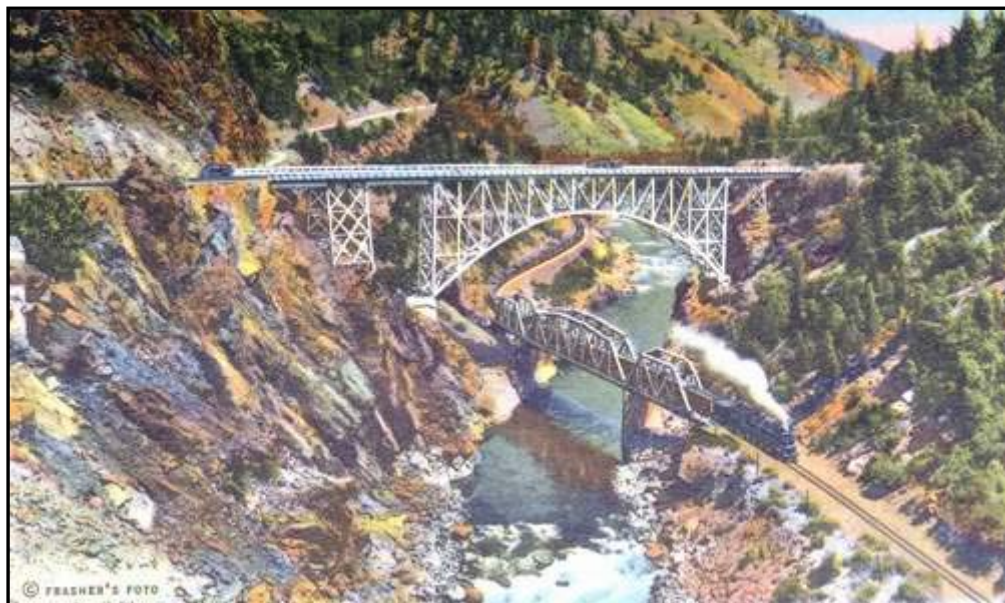
In their reflection of pioneer building techniques or their adherence to rustic architecture, these buildings and structures complied with design standards developed by the National Park Service in the 1920s and 1930s. Most complied with the park's Master Plan for

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.⁷¹ 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



“The Scenic West via Western Pacific Railroad”

On March 49, 1949 the Western Pacific inaugurated the California Zephyr streamlined transcontinental train service between Oakland and Chicago. The train included upper-level observation domes and was scheduled to pass through the most scenic portions of the route - including the Feather River country just south of Lassen Peak – during the daylight hours. Along this route, the Western Pacific advertised, were “ many marvels and while the traveler sees the moving panorama of the varied scenic, historic and the geological interest unfold, he gains intimate touch with the modern life of the West and with it an appreciation of its spirit.” Those passengers so inclined found convenient bus service from the Kedding Station to Lassen Volcanic National Park.

(Source: Myrick. *Railroads of Nevada and Eastern California. Vol. One: the Northern Roads*, p. 332; Historic Postcard, n.d. (ca. 1949), HRA Collection.)

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.⁷²

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 landscape architect 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.

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."⁷³

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.⁷⁴ 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.⁷⁵

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.⁷⁶ 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.⁷⁷ In 1926, the service signed a cooperative agreement with the Bureau of Public Roads, whereby park designers set aesthetic standards of workmanship, location, and design of roads⁷⁸ while bureau engineers provided the latest technology and engineering acumen.⁷⁹

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.⁸⁰

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.⁸¹ Center lines, which imparted a "sophisticated or city-like appearance" were to be avoided except in areas of heavy traffic congestion.⁸²

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.⁸³ By 1939, it encompassed the many emerging programs of the National Park Service, from engineering and forest protection to interpretation and recreation.⁸⁴

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 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.⁸⁵

Those buildings not inhabited during the winter were still modified to accommodate the extreme snow loads, most-often incorporating design modifications first pioneered by Euro-American 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.⁸⁶

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.⁸⁷

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, 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.⁸⁸

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”)⁸⁹ and stove type (“native rock, of rustic, unobtrusive design”),⁹⁰ 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)⁹¹; 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”).⁹²

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, Forest Service, and Park Service 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.”⁹³ With the 1932 Forest Service 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.”⁹⁴ 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.⁹⁵

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.”⁹⁶

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.”)⁹⁷ At the close of the 1935 season NPS Landscape Architect 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 our



Campsites, Manzanita Lake Campground, 1961. (Source: Classification #550, Negative # 1162, Historic Photo Collection, LAVO.)

campgrounds and picnic ground stoves.”⁹⁸ Five years later, Regional Landscape Architect Ernest Davidson insisted upon “Meinecke-ization” of the Summit Lake Campground.⁹⁹

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.¹⁰⁰ “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.”¹⁰¹

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 national parks were becoming “resorts” cluttered with “‘contemporary’ buildings of freak and austere design” when they were designed to be preserved as “wilderness.”¹⁰² 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.¹⁰³ 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.”¹⁰⁴ 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).¹⁰⁵ Proposed new construction was limited to a new visitor center at Manzanita Lake (to replace the “ugly quasi-Spanish” Loomis Museum¹⁰⁶); 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.¹⁰⁷

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 National Park Service declined to seek an alternative concessioner and the lifts were removed.¹⁰⁸ 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 Donal 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

Mission 66 in Lassen Volcanic National Park

1. Acquire private inholdings wherever possible through means available to the Service.
2. Obliterate and/or remove vestiges of habitation including roads and trails in newly acquired areas unless necessary in management or protection and interpretation of the area.
3. Improve existing road and trail systems to meet Service standards, including road improvement and realignment in the southeasterly section of the park only after private lands have been acquired.
4. Improve and/or expand existing camping facilities and develop additional campgrounds including group-type campgrounds, consistent with the preservation of park values.
5. Maintain primitive atmosphere of back-country campgrounds.
6. Encourage expansion and development by the concessioner of accommodations and facilities as needed, removing antiquated structures as soon as possible.
7. Continue to interpret the park's main resource through personnel-conducted programs and self-guiding devices.
8. Replace existing museum at Manzanita Lake with an adequate Visitor Center, and provide modest Information Centers in other areas as needed.
9. Install family-type campfire circles at minor campgrounds as required.
10. Install road and trailside exhibits where major parts of park story can be given on-site treatment and where orientation can be effectively carried out.
11. Continue emphasis on park research.
12. Maintain an adequate study collection and library.
13. Provide such necessary structures, including utility and sanitation systems at present administrative area at Mineral, for summer operations in the Manzanita Lake area and, as required, for back-country stations.
14. Construct necessary trailer sites but at the same time encourage private capital in establishment of trailer camps and suitable overnight accommodations and services beyond park boundaries.
15. Restrict size of developed winter use area.
16. Retain current regulation prohibiting motor boating on park waters.
17. Continue cooperation with California Fish and Game Department regarding wildlife management programs.
18. Provide sufficient staff to afford adequate protection, interpretation and maintenance.
19. Lassen Volcanic National Park will function within the framework of the approved master plan under public delegations of authorities as a group D organization, as defined in the Administrative Manual.



Source: 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. 9-10.

the NPS either waive the insurance requirement or indemnify the property. Unable to do either (or, local newspapers suggested, 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. 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), 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.¹⁰⁹

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 recommending retention of historic buildings still standing at the lake (the Naturalist's residence, Loomis Museum, and the Seismograph Station), and by reopening the Reflection Lake picnic area and nature trails. Manzanita Lake campground loops A and B were not reopened and the lodge and cabins were not rebuilt.¹¹⁰

Park Administration

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."¹¹¹ 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.)¹¹² 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 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."¹¹³ 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



Prospect Peak, 1973.

(Source: Negative #197. Historic Photo Collection, LAVO.)

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. This use continued, albeit on a reduced scale, through at least 1925 when Superintendent Collins reported that approximately 1000 head of cattle were grazed within the park boundaries by ten permittees. All grazing permits were eliminated over the course of the next 10 years. In 1943, 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.”¹¹⁴ 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.¹¹⁵

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.”¹¹⁶ 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.¹¹⁷

In 1936, the National Park Service and the United States Forest Service initiated a cooperative venture for construction of a

cattleguard 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 and Crumbaugh Meadows, along the park boundary at Twin Meadows, at Manzanita Lake – and boundary fences, including fence securing private land at Badger Meadows.¹¹⁸ 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 [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.¹¹⁹ In addition, special-use grazing permits were granted both in times of drought (including, for example, the permit granted to Warner Valley stockman Winifred H. Lee in 1933 to graze 67 head of cattle in the Juniper-Horseshoe Lakes-Cameron Meadows area) and also to provide access from private holdings to Forest Service lease land (as, for example, in 1944 when Mr. Lee was granted permission to drive his stock over the Juniper Lake Road to the north side of Bonte Peak).¹²⁰

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.¹²¹ 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.¹²² 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 and Juniper Lake, where Long, Wilson, and Janek had homesteaded at the turn of the century.

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.”¹²³ At Lassen 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, often the result of creative three-party trades (as at Drakesbad, where the St. Paul and Tacoma Lumber Company purchased the Sifford interest and then gifted the land and improvements to the Park Service in exchange for Bureau of Land Management timber holdings near Mount Rainier) or lieu-land exchanges with other federal agencies.¹²⁴

Throughout the historic period, purchase efforts were concentrated on those lands at Juniper Lake, representing 1,534 lots developed by the C. P. Snell family and zoned for or developed as recreational properties,¹²⁵ 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, C.P. Snell and the Supan family proved of more-significant concern and were considered “the most important for early acquisition.”¹²⁶ Park files are filled with reports of destructive Christmas-tree harvest (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

Mother Nature's Classics

Dear George,

I have your letter of the 12th asking me to put a value upon the private properties in the Lassen Volcanic National Park. I cannot do this – nor do I believe it is within the competency of any human agency to correctly estimate their value. Just for example – what is the dollar value of Lassen Peak or Cinder Cone? A man would starve to death at either place and could not pay the taxes yet the Government has spent millions to develop them. In a like situation – What is the Boiling Lake Worth – What is the Devil's Kitchen worth? These things are mother nature's Classics and it is very hard to value them from a bread and butter standpoint. Could the government itself put a dollar value on Yosemite? I do not believe they would dare lest some Mussolini or Hitler come along and buy it.

Well, George, your order is too large for me to fill.

With best wishes for Christmas and the New Year, I am

Sincerely Yours,

R. D. Sifford

Source: Sifford to George McDow, Jr., Leonard Realty Co. Susanville, December 20, 1938

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.¹²⁷

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.¹²⁸

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.¹²⁹ 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.¹³⁰ 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

Private Inholdings, 1949.

(tracts 1, 2, 13, 14, 15 had been purchased by 1959)		
Tract No. 1	Hust (near east boundary)	40.00 acres
Tract No. 2	Supan (Hot Spring Valley)	60.00 acres
Tract No. 3	L. B. Gernon	40.00 acres
Tract No. 4	P. Sifford	440.00 acres
Tract No. 5	Cora L. Snell, et al. (Juniper Lake)	550.87 acres
Tract No. 6	A. D. Walker, et al.	640.00 acres
Tract No. 7	M. Childs	151.40 acres
Tract No. 8	R. D. Sifford	80.00 acres
Tract No. 9	Clay Long, et. al	150.875 acres
Tract No. 9A,B,C,D,E,F,G,H,I, & J	J. M. Dobrowsky, et al.	9.125 acres
Tract No. 10	Shasta Forest Company	80.00 acres
Tract No. 11	Meeker (Badger Flat)	160.00 acres
Tract No. 12	R. D. Sifford	40.00 acres
Tract No. 13	Hust (Little Hot Springs Valley)	40.00 acres
Tract No. 14	Supan (Sulphur Works)	100.00 acres
Tract No. 15	Hanna (South boundary)	40.00 acres
Total		2,622.27 acres

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.”¹³¹ By 1966, the 7-acre Dubrowsky holding had been subdivided into 11 small lots, with 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.¹³²

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.”¹³³ 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.¹³⁴

Access to the Hat Creek Subdivision, historically as today, is gained through the park Northwest entrance station on Highway 89/NPS Route 1 then 2.5 – 3 miles along the Hat Creek/Badger Flat Truck Trail (bordering and in some places incorporating Nobles Emigrant Trail); this passage has in the past been granted “at the sufferance of the Park Service.” While the National Park Service was required to permit “reasonable access” to private property along Hat Creek, it has recently determined that it is not legally required to maintain that access. In July 1997, Lassen Acting Superintendent Karen Stoll informed private land owners along Hat Creek of the Park Service’s intent to convert the Hat Creek/Badger Flat Truck Trail to a foot trail. Primitive roads allowing vehicular access could be constructed and maintained by private land owners, subject to a Special Use Permit.¹³⁵

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.”¹³⁶ 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.¹³⁷

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.¹³⁸

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, exotic fish were no longer planted in Lassen lakes and streams.)

Historically, 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 Route 1, 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.¹³⁹ Building maintenance workers described a similar cycle. These patterns continue today.

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 Trail, and Drakesbad Resort are directly associated with National Park Service administration. Of the exceptions, the Loomis Museum was built after creation of the park in foreknowledge of the visitors who would pass

directly by its doors on their way to the adjacent park and has been in Park Service ownership since 1928. Nobles Trail stands largely as an archaeological resource, cut-off from the larger transportation network and preserved in its present form by virtue of Park Service authorized use. Drakesbad Resort has evolved during the modern period under the auspices of the National Park Service and is today park-service owned, part of the larger system of park accommodations.

Within the broad context of regional development, this emphasis reflects the lack of concerted long-term development in the high-elevation lands prior to establishment of the national park. Land use was largely fleeting and seasonal and vestiges stand as shadows – grave markers; the collapsed course of the Sunflower Flume and Canal; the shallow course of the Dutch Hill Mine ditch; the faint outline of building depressions at relinquished homestead claims inhabited only seasonally and only briefly. Additionally, natural resources speak only subtly to ethnographic use – and then only to the trained and initiated – as vistas and food procurement sites.

These examples of human presence in and use of the Lassen Region, both the most obvious NPS manifestations and the more subtle examples, are identified and categorized in the following chapter.

Chapter Nine Notes

¹ 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).

² “Annual Report, 1947,” File: Annual Reports, Unaccessioned Historic Material, LAVO, 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.

³ 86 Stat. 910. This act also repealed provisions of the park enabling legislation that permitted reclamation projects within the park.

⁴ E. F. Leavitt, Superintendent, to Regional Officer, Region Four, April 16, 1937, File 600, LAVO Collection, Western Archeological and Conservation Center (WACC), Tucson, Arizona.

⁵ USDI NPS, *General Management Plan and Environmental Impact Statement, Lassen Volcanic National Park* (Washington: Government Printing Office, 2001), p. 28.

⁶ “Annual Reports,” 1925-1929, *passim*.

⁷ Anonymous (NPS Education Committee), “Recommendations Regarding Development of an Educational Program at Mount Lassen Volcanic National Park,” no date (ca. 1926), LAVO Collection, WACC, pp. 1-3.

⁸ NPS Education Committee, “Recommendations Regarding Development of an Educational Program,” p. 11.

⁹ “Annual Report, 1946” [Return to Normal from War Condition], no page.

¹⁰ NPS Education Committee, “Recommendations Regarding Development of an Educational Program,” pp. 4-5.

¹¹ NPS Education Committee, “Recommendations Regarding Development of an Educational Program,” pp. 7.

¹² Vint, 1927, quoted in Strong, *Footprints in Time*, p. 74.

¹³ Boundary Adjustment Committee, “Proposed Boundry [sic] Adjustments for Lassen Volcanic National Park,” September 1, 1939. Unaccessioned Historic Material, LAVO, no page. The committee consisted of John C. Preston, Lassen superintendent; Carl R. Swartzlow, naturalist; Maurice E. Thede, Associate Regional Forester; Lewis E. Bronson, U.S. Commissioner; Francis G. Lange, Resident Landscape Architect; and Raymond E. Hoyt, Regional Supervisor, Regional Office. Proposed boundary adjustments were not instituted.

¹⁴ The political debate surrounding boundary expansion should be detailed in depth in the park’s Administrative History.

¹⁵ Ethan Carr, *Wilderness by Design. Landscape Architecture and the National Park Service* (Lincoln and London: University of Nebraska Press, 1998), p. 258. Within Lassen Volcanic National Park, for example, group camp sites were considered not just a means of accommodating visitors (development) in a controlled and regulated setting (preservation) but were also considered integral to the interpretive program, providing opportunity for urban children to experience the wonders of nature and to receive all of the physical, spiritual, and – by the 1950s – patriotic benefits of that experience: “Boy and Girl Scout Troops, church groups, school parties, and other non-profit character building organizations come into the park for summer camping and for wholesome winter sports,” the Lassen superintendent wrote in 1947. “They combine a student’s interest with a recreational interest and under good leadership and supervision can acquire an understanding of national park values and policies at the same time that they are undergoing a physical and spiritual experience in the out of doors. . . . [helping] in the development of peacetime patriotism and in the combating of tendencies toward communism among the youth of the nation.” “Annual Report, 1946” [Return to Normal from War Condition], no page.

¹⁶ NPS Education Committee, “Recommendations Regarding Development of an Educational Program,” p. 7.

¹⁷ Medlin, *Fire Mountain*, p. 99.

¹⁸ Medlin, *Fire Mountain*, pp. 99-104.

¹⁹ NPS Education Committee, "Recommendations Regarding Development of an Educational Program," p. 5.

²⁰ NPS Education Committee, "Recommendations Regarding Development of an Educational Program," p. 6.

²¹ NPS Education Committee, "Recommendations Regarding Development of an Educational Program," p. 5

²² NPS Education Committee, "Final Construction Report on Bumpas Hell Trail Construction, Account 531," no date (ca. 1933). LAVO Collection, WACC.

²³ 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.

²⁴ 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.

²⁵ L.W. Collins, Acting Superintendent, "Annual Report, 1926," p. 2.

²⁶ 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 Park 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.

²⁷ 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.

²⁸ 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.

²⁹ 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; Frank A. Kittredge, Regional Director, to John C. Preston, Superintendent, November 11, 1937, File 630, Box 61, RG 79, NARA San Bruno; Strong, *Footprints in Time*, pp. 61-63. Planning studies and surveys associated with the proposed road are extensive and continue until 1957 when NPS Director Conrad Wirth ordered the Summit-Juniper Lake Road deleted from the final Mission 66 Master Plan for park development. The 30-year debate surrounding construction of a through-road – the engineering characteristics, its location, the need for, and the environmental risks associated with its construction – provides a remarkable case study of conflicting definitions of conservation and wise use and is a central component of the park's administrative history.

³⁰ 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.

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

³² See, for example, John A. Garraty, *The Great Depression. An Inquiry into the Causes, Course, and Consequences of the Worldwide Depression of the Nineteen-Thirties, as Seen by Contemporaries and in the Light of History* (New York: Harcourt Brace Jovanovich, 1986), pp. 199-201.

³³ Ethan Carr, *Wilderness by Design. Landscape Architecture and the National Park Service* (Lincoln and London: University of Nebraska Press, 1998), p. 258. Within Lassen Volcanic National Park, for example, group camp sites were considered not just a means of accommodating visitors (development) in a controlled and regulated setting (preservation) but were also considered integral to the interpretive program, providing opportunity for urban children to experience the wonders of nature and to receive all of the physical, spiritual, and – by the 1950s – patriotic benefits of that experience: “Boy and Girl Scout Troops, church groups, school parties, and other non-profit character building organizations come into the park for summer camping and for wholesome winter sports,” the Lassen superintendent wrote in 1947. “They combine a student’s interest with a recreational interest and under good leadership and supervision can acquire an understanding of national park values and policies at the same time that they are undergoing a physical and spiritual experience in the out of doors. . . . [helping] in the development of peacetime patriotism and in the combating of tendencies toward communism among the youth of the nation.” “Annual Report, 1946” [Return to Normal from War Condition], no page.

³⁴ 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.

³⁵ Quoted in McClelland, *Presenting Nature*, p. 196.

³⁶ Mackintosh, *The National Parks: Shaping the System*, p. 44.

³⁷ 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.

³⁸ Arthur C. Ringland, “Conserving Human and Natural Resources,” interview with Amelia R. Fry, Edith McZirow, Fern, Ingersoll, and Thelma Dreis, Berkeley, California, 1970. Transcript on file at the Bancroft Library, University of California, Berkeley, p. 180.

³⁹ 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.

⁴⁰ E. F. Leavitt, Superintendent, to The Director, April 19, 1937, File 600, LAVO Collection, WACC.

⁴¹ Quarterly and Annual Narrative Reports, 1933-1936, LAVO Collection, WACC, passim.

⁴² 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.

⁴³ Strong, *Footprints in Time*, p. 79.

⁴⁴ Paul E. Schulz, Park Naturalist, *Master Plan for Use and Development*, “Interpretation,” March, 1952, p. 17.

⁴⁵ W. P. Moore, Acting Superintendent, to the Director, January 30, 1937, File 640 part I, Box 63, LAVO Collection, WACC.

⁴⁶ John C. Preston, Superintendent, “Annual Report, 1937,” no date [ca. 1938], p. 6.

⁴⁷ Quoted in Gordon Chappell, “Mount Harkness Lookout National Register Nomination (draft),” ca. 1975, p. 2. Excerpt included in File H-4207, Alph-Numeric Files, LAVO.

⁴⁸ “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.

⁴⁹ 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.

⁵⁰ John C. Preston, Superintendent, "Annual Report, 1937," no date [ca. 1938], p. 14.

⁵¹ See especially Pam Koeberer Pitt, interviewed by Ann Emmons, Historical Research Associates, Inc. February 2002. Transcript on file with the National Park Service, LAVO.

⁵² 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.

⁵³ Park Naturalist, "Yes, MA'M. . . . A Catechism for New Employees at Lassen Volcanic National Park."

⁵⁴ Strong, *Footprints in Time*, p. 101.

⁵⁵ The Kings Creek Campground was removed in the 1940s after Park Service administrators determined that its operating season was too short (less than 1 month) to justify the encroachment upon the fragile and scenic meadow. Lloyd to the Regional Director, Region Four, April 22, 1944. File 600 Box VI, 1/1/42-1/1/46, RG 79, NARA, San Bruno.

⁵⁶ Rangers Monthly Reports, LAVO Collection, WACC, *passim*.

⁵⁷ Rosemary S. Wagoner, "The Wagoner Family, Pioneers of Shasta County," *The Covered Wagon* (Redding: Shasta County Historical Society, 1962, p. 37.

⁵⁸ Lester D. Bodine interviewed by Ruby Swartzlow, Oct. 31, 1973, p. 4.

⁵⁹ 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.

⁶⁰ Dorr Yeager, "National Parks in California," p. 92.

⁶¹ Lester D. Bodine interviewed by Ruby Swartzlow, Oct. 31, 1973, p. 4.

⁶² Assistant Regional Director to The Director, November 20, 1952. Unaccessioned Historic Material, LAVO.

⁶³ Dorr Yeager, "National Parks in California," p. 92.

⁶⁴ Strong, *Footprints in Time*, pp. 79-80.

⁶⁵ 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.

⁶⁶ 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.

⁶⁷ 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.

⁶⁸ 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.

⁶⁹ 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.

⁷⁰ Unless otherwise cited, this discussion is taken from McClelland, *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).

⁷¹ Carr, *Wilderness by Design*, p. 258.

⁷² Cammerer quoted in introduction to Anonymous, *Park Structures and Facilities* (Washington D. C.: USDI NPS Branch of Planning, 1935), pp. Forward, 4, 5, 95.

⁷³ Albert H. Good, Architectural Consultant, *Park and Recreation Structures, Part I – Administration and Basic Service Facilities* (Washington D. C. : Government Printing Office, 1938), pp. 4-5.

⁷⁴ McClelland, *Presenting Nature*, p. 199.

⁷⁵ McClelland, *Presenting Nature*, passim.

⁷⁶ Carr, *Wilderness by Design*, p. 1.

⁷⁷ Laura E. Souilliere, *Historic Roads in the National Park System* (USDI NPS Denver Service Center Special History Study, 1995).

⁷⁸ As first presented by Hull and subsequently expanded and modified by Thomas Vint, Thomas Carpenter, Arno Cammerer and others.

⁷⁹ 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.

⁸⁰ Souilliere, *Historic Roads in the National Park System*, pp. 53, 65.

⁸¹ Souilliere, *Historic Roads in the National Park System*, pp. 53-54.

⁸² Arno Cammerer, quoted in Souilliere, *Historic Roads in the National Park System*, p. 55.

⁸³ See especially Carr, *Wilderness by Design*, pp. 249-251.

⁸⁴ Carr, *Wilderness by Design*, p. 265.

⁸⁵ E. P. Leavitt, Superintendent, to E. A. Davidson, Regional Landscape Architect, April 7, 1937. Landscape Architects Reports, 1937, Box 7, LAVO Collection, WACC.

⁸⁶ E. P. Leavitt, Superintendent, to E. A. Davidson, Regional Landscape Architect, April 7, 1937. Landscape Architects Reports, 1937, Box 7, LAVO Collection, WACC.

⁸⁷ E. P. Leavitt, Superintendent, to E. A. Davidson, Regional Landscape Architect, April 7, 1937. Landscape Architects Reports, 1937, Box 7, LAVO Collection, WACC.

⁸⁸ 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.

⁸⁹ Noble Hoggson, ECW Landscape Architect, "Campground Stove Report," no date," File 207, Part I, Box 46, RG 79, NARA San Bruno.

⁹⁰ Anonymous, "Old Boundary Springs Camp, NP-1, Final Narrative Report, May-October 1934," no date, LAVO Collection, WACC, p. 11.

⁹¹ Noble Hoggson, ECW Landscape Architect, "Campground Stove Report," no date," File 207, Part I, Box 46, RG 79, NARA San Bruno.

⁹² 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.

⁹³ Meinecke quoted in Linda Flint McClelland, *Presenting Nature*, p. 162.

⁹⁴ Meinecke quoted in McClelland, *Presenting Nature*, p. 164.

⁹⁵ McClelland, *Presenting Nature*, pp. 162-163.

⁹⁶ McClelland, *Presenting Nature*, p. 163.

⁹⁷ Anonymous, "Old Boundary Springs Camp, NP-1, Final Narrative Report, May-October 1934," no date, LAVO collection, WACC, p. 11.

⁹⁸ 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.

⁹⁹ 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.

¹⁰⁰ 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.

¹⁰¹ Lon Garrison, "Mission 66," *National Parks Magazine*, July-September, 1955, p. 107.

¹⁰² Devereux Butcher, "Our National Parks In Jeopardy: Resorts or Wilderness?," *Atlantic Monthly*, February, 1961, p. 45.

¹⁰³ 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.

¹⁰⁴ 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.

¹⁰⁵ 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.

¹⁰⁶ Paul E. Schulz, Park Naturalist, *Master Plan for Use and Development*, "Interpretation," March, 1952, p. 14.

¹⁰⁷ Daniel J. Tobin, Superintendent, *Master Plan for Use and Development*, "General Information," February, 1952, *passim*.

¹⁰⁸ John Koeberer, interviewed by Ann Emmons, Historical Research Associates, Inc. February 2002. Transcript on file with the National Park Service, LAVO.

¹⁰⁹ 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. Local newspapers, chambers of commerce, and others accused the Park Service of using the geological report as an opportunity to realize the new NPS philosophy of closing concessions within the boundaries of national parks and returning park lands to a more natural state. The events and debate surrounding the Manzanita Lake closure form a key chapter in the park's and the National Park Service's administrative history.

¹¹⁰ Strong, *Footprints in Time*, pp. 97-100. John Koeberer, February 2002.

¹¹¹ L.W. Collins, Chief Ranger, "Annual Report 1925, p. 2.

¹¹² F.A. Silcox, "How the Fires were Fought," *American Forestry: The Magazine of the American Forestry Association* 16 (November 1910), p. 638.

¹¹³ Quoted in Chappell, "Mount Harkness Lookout National Register Nomination (draft)," ca. 1975, p. 2.

¹¹⁴ O. A. Tomlinson, Regional Director, to the Director, April 28, 1943, File 900.01, Box 73, LAVO Collection, WACC.

¹¹⁵ 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.

¹¹⁶ Lyn Allen, *Lassen County: Cow Country* (Susanville: Lassen County Cattlemen's Association and Lassen County Cowbells, 1966), p. 12.

¹¹⁷ See File 900.01 [1944], Box 73, LAVO Collection, WACC.

¹¹⁸ See, for example, James V. Lloyd, Superintendent, to the Regional Director, July 31, 1944, File 900.01, Box 73, LAVO Collection, WACC.

¹¹⁹ Monthly Reports, October 1936, LAVO Collection, WACC.

¹²⁰ James V. Lloyd, Superintendent, to the Regional Director, July 22, 1944, File 900.01, Box 73, LAVO Collection, WACC.

¹²¹ James V. Lloyd, Superintendent, to the Regional Director, November 7, 1941, File 610, Part I, Box 57, RG 79, NARA San Bruno.

¹²² The Park Service classified the small Juniper Lake subdivision lots (as many of 200 of which were sold) as one inholding.

¹²³ Arno B. Cammerer to Ervie A. Ferris, November 21, 1932, file: L (Inholdings), LAVO Central Files, Mineral, California.

¹²⁴ See "Land" file, Unaccessioned Historic Material, LAVO.

¹²⁵ 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.

¹²⁶ Daniel J. Tobin, Superintendent, to Associate Director Demaray, September 15, 1947, File 600 Part VII, Box 55, RG 79, NARA San Bruno, n.p.

¹²⁷ File: Inholdings, Juniper Lake, LAVO Collection, WAAC, passim.

¹²⁸ F. A. Kittredge, Regional Director, to the Director, October 20, 1938, File 610, Part I, Box 57, LAVO, RG 79, NARA, San Bruno.

¹²⁹ 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.

¹³⁰ *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.

¹³¹ 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

¹³² R. Dean Stahr, MAI, Real Estate Appraisal Tract 01-151 (Kitchell), November 1966, File L1425 "Kitchell Hat Creek," Central Files, LAVO, no page.

¹³³ R. Dean Stahr, MAI, Real Estate Appraisal Tract 01-151 (Kitchell), November 1966, File L1425 "Kitchell/Hat Creek," Central Files, LAVO, no page.

¹³⁴ Gilbert. Blinn to Sondra Humphries, Bryan Swift, Elizabeth A. LaLone, February 7, 1997 (electronic mail), file: L (inholdings), Central Files, LAVO.

¹³⁵ See, for example, Karen A. Stoll, Acting Superintendent, to Bradford Kitchell, July 7, 1997, File L1425 ("Holdings Other than Transfer"), Central Files, LAVO.

¹³⁶ Superintendent, Lassen Volcanic National Park, to the Regional Director, October 20, 1949. File: L (lands), Central Files, LAVO.

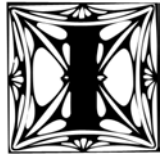
¹³⁷ In a standard land exchange, a lumber company would release timbered acreage within the national park in exchange for land of similar value on a national forest. More-complex transactions involved a third party. In 1951, for example, the Park Service contemplated a three-party exchange for private 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.

¹³⁸ Gilbert Blinn to Sondra Humphries, Bryan Swift, Elizabeth A. LaLone, February 7, 1997 (electronic mail), file: L (inholdings), Central Files, LAVO.

¹³⁹ John Janc, interviewed by Ann Emmons, Red Bluff, California, February 2002. Transcript on file with the National Park Service, LAVO.

Chapter Ten

Physical Remains



In 1992, the National Park Service, the US Forest Service, the Lassen Museum Association, and the Lassen Park Foundation commissioned an Interpretive Prospectus for the Lassen Crossroads Area, extending from the Pit River to the north, the North Fork of the Feather River to the south, the slopes of the Cascade Range and Sierra Nevada mountains to the west, and Eagle Lake to the east. The prospectus defines not only a region at the crossroads of distinct biological and geological worlds but also a region where human history is “written on the land.”¹ Lassen Volcanic National Park offers a unique chapter in this human history by virtue of its seasonal use and of the National Park Service’s defining architectural style and unique imperative to both preserve the land while also developing it for public use. This chapter summarizes historical themes represented in the Lassen Volcanic National Park built environment and further categorizes cultural resources by shared physical characteristics and historic association. The chapter concludes with a list of National Register-listed or eligible resources within the park.

Four Native American Tribes – the Atsugewi, Yahi, 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. The tribes also had strong spiritual ties to Lassen Peak.² Euro-American use proved equally seasonal, with settlers returning to the valleys “for the reason [they] could not live on this land on account of the deep snow which falls to a depth of from 20 to 25 feet.”³ Euro-American settlement in the region, sparked by the Gold Rush, dates from the 1840s and early 1850s, although Jediah Smith had traveled through the area as early as 1821 on his overland journey to the Pacific Coast. 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 also guided emigrants from Humboldt, Nevada, 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.⁴ 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.”⁵ 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 nineteenth century and continuing unabated, by ever greater numbers, into the twenty-first century. Economic activity in the vicinity of the park, however, has also included power development, ranching, and logging – all of which contributed to the economic development and settlement of the region while 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 first in 1907 with designation of Cinder Cone and Lassen Peak national monuments and

then 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, recreation defined the area's principal economic value.

Park Resources Representing Historic Themes

As demonstrated in the previous chapters, overland emigration; Euro-American settlement; geological studies; growth of the tourism industry; and NPS-sponsored development are significant themes in local, regional, or national history. Each discrete land use and era of development resulted in physical impacts to the natural environment. Resources representing these themes may be eligible for listing in the National Register of Historic Places for their association with significant trends or events (criterion A); individuals significant in local, state, or national history (criterion B); significant design standards (including vernacular) and construction techniques (criterion C); or for their potential to provide significant information (criterion D). Property types associated with these themes are defined as a group of like-resources, sharing historic association and 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.

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.

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.

Overland Emigration

Known cultural resources associated with Overland Emigration are limited to the remains of Nobles Emigrant Trail. The trail corridor, as found within the boundaries of the park, is listed in the National Register of Historic Places. 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

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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 Trail National Register nomination as contributing components of the larger trail landscape. 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.

Extractive Industry and Permanent Settlement

Cultural resources associated with this overarching theme will represent one of three dominant economic sectors: the Timber Industry; Mining/Hydroelectric Power development; and Ranching. They may date from the 1840s to the period of land acquisition by the National Park Service (most often 1916 but possibly later in the event of inholdings).

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 – cultural resources associated with Extractive Industry and Permanent Settlement are relatively rare. Administrators of the nascent park, charged with development of visitor services, described a virtual “blank slate.” This scarcity of resources also mirrored the politics of park designation and of proposed boundary expansion. To a large extent, park boundaries reflected the political difficulty, and economic hazards, of conserving land known or believed to carry a higher economic value if exploited to its fullest timber, livestock, farming, or real-estate potential.

The historic significance and national-register eligibility of those extant resources within the park must be evaluated within the context of this scarcity: by virtue of the lack of subsequent modern development, vestiges of settlement and extractive industry stand as a snapshot of the nineteenth and twentieth century West and contribute to our understanding of the advancement of Euro-American interests, the

resultant impact on native culture, and the history of resource extraction and conservation.

Timber Resources

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 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.⁶ Commercially logged areas within the 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. 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. 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 [see below])? 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? As with all archaeological sites, research domains will likely vary from site to site, depending upon the information potential inherent within the archaeological assemblage.

Mining Resource

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 and to hydroelectric development at Rice Creek and at Manzanita Lake. 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 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); 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. 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 material, 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.

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. 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? 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).

Ranching Resources

Known or documented ranching-related resources in Lassen Volcanic National Park are limited to cultural landscape elements, road and trail corridors, and archaeological sites. None are listed in the National Register of Historic Places.

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 included 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). Native materials – pine, fir, and stone – and relative isolation dictated construction style, with the quantity of imported materials likely inversely proportionate to distance from supply centers and ease of access. 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 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. 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.

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 ranching-related resources within the boundaries of Lassen Volcanic National Park – single corrals, fences, roads and trails, pasture – may therefore be 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 any 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: 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 geopolitical boundaries?

Geological Studies

Cultural resources associated with the use of Lassen Peak for the advancement of our understanding of geological processes include seismographic stations at Manzanita Lake, Mt. Harkness Lookout, and at Mineral Headquarters. 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 the only eruptive volcano in the contiguous United States until Mount St. Helens' eruption in 1980. Although Lassen Peak's main significance to vulcanology 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).⁷

Resources Associated with Vulcanology

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. The period of significance extends from construction in the 1920s until the end of active use. The buildings themselves may be eligible to the National Register under criterion C, as examples of NPS rustic architecture (see registration requirements, NPS Administration and Development context, below). The seismographic equipment may be eligible for listing in the National Register of Historic Places, under criterion C (engineering), if it retains integrity of materials, workmanship, and design. The buildings themselves may be eligible under criterion A for their association with significant themes in local and state history if sufficient elements to convey historic function remain extant. Character-defining features therefore include location and design. Design features include the seismographic units themselves.

Tourism and Recreation

Well prior to national-park designation, the Lassen region served 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: "a tradition of informality persisted."⁸ Known extant resources associated with the industry are limited to summer homes that remain in private ownership (concentrated at Hat Creek and Juniper Lake); to Drakesbad Resort at the head of the Warner Valley; and to early recreation trails (reconstructed and maintained by the National Park Service [see National Park Service Administration context, below]). Archaeological sites may be found at Morgan Hot Springs, near Devil's Kitchen, and near popular fishing destinations, including Horseshoe (aka Grassy) Lake, Twin Lakes, and

Butte Lake. Additional resources are expected to fall within one of three broad categories: Camp Sites/Developed Natural Features; Tourist Accommodations; or Summer Homes.

Camp Sites/Developed Natural Features

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 the archaeological remains of small-scale improvements such as simple willow bath houses and tent platforms.

Camps sites may 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?

Summer Homes

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).

Within the context of the larger Lassen region, character-defining features for 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?

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.

Tourist Accommodations

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). Therefore, as with summer homes, character-defining features for tourist accommodations significant under criterion A include location and setting - proximity to the natural resource that inspired development - and design. Design relates most meaningfully not to individual buildings but to the larger integrated system of resources: does the property contain the principal features present during the historic period, including those providing access, shelter, recreation, and visual pleasure (views and vistas)?

Those tourist accommodations 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. Some may prove eligible under criterion C not as examples of vernacular design but as examples of Rustic Architecture – a deliberate manipulation of local pioneer styles to create a “western” image for tourists.

National Park Service Administration

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 Lassen Volcanic National Park, all but Nobles Trail, and Drakesbad Resort are directly

associated with National Park Service administration. 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.

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 [see Chapter Nine], 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 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.

NPS Historian Linda Flint McClelland's historic context *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 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. "Landscape types" identified by McClelland and extant within Lassen Volcanic National Park include Park Roads (which may include Entrance Areas); Trail Systems; Major Developed Areas (which may also be separated by function into Administrative areas, Concessionaire developments, Residential areas, Maintenance areas, and Campgrounds); Minor Developed Areas; Campgrounds; and Picnic Areas.

National Park Service Landscape Types: Park Roads; Trail Systems; Major Developed Areas; Minor Developed Areas; Campgrounds; and Picnic Areas

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 vernacular resources described above. 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. 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, NPS Route 1 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 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 NPS Route 1 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.

Field Survey

HRA's field survey of known cultural resources was initiated upon completion of the research phase of this Historic Resource Study, in June, 2002. The field investigations were informed by the findings of the documentary research, with particular care taken to identify and evaluate cultural landscapes. National Register nominations completed as an addendum to this Historic Resource Study include Drakesbad Guest Ranch; the Warner Valley Major Developed Area; Manzanita Lake Naturalist's Services Historic District; and the Lassen Volcanic National Park Highway Historic District.

National Register Listed Properties, Lassen Volcanic National Park

Resource	Historic Context/Property Type	National Register Criteria	Date Listed
Nobles Emigrant Trail	Overland Emigration	A, B	1975
Drakesbad Resort	Recreation and Tourism	A	2003
Warner Valley Major Developed Area (Warner Valley Ranger Station listed 1978)	National Park Service Administration	A, C	Pending 2003
Horseshoe Lake (Grassy Lake) Ranger Station	National Park Service Administration	A, C	1978
Summit Lake Ranger Station	National Park Service Administration	A, C	1978
Manzanita Lake Naturalist's Services Historic District (Loomis Museum and Seismograph Station listed 1978; CA SHPO concurred on Naturalist's Residence eligibility in 1976)	National Park Service Administration; Geological Studies	A, C	2003
Manzanita Lake Campground Comfort Stations	National Park Service Administration	C	Pending 2003
Park Headquarters, Lassen Volcanic National Park (CA SHPO concurred on district eligibility in 1994)	National Park Service Administration	A, C	Pending 2003
Lassen Volcanic National Park Highway Historic District (CA SHPO concurred on eligibility in 1995)	National Park Service Administration	A, C	Pending 2003

Chapter Ten Notes_____

¹ WordPicture Enterprises, “Lassen Crossroads Area Interpretive Prospectus,” May 1992, pp. 2-3. Prepared for Lassen Volcanic National Park, Lassen National Forest, Loomis Museum Association, Lassen Park Foundation. File K1817, Interpretive Planning, 1993-1995, LAVO Headquarters, Mineral.

² Note that the National Register eligibility of prehistoric and ethnographic resources will be addressed in a *Traditional Use Study* [Pending 2003].

³ Homestead Entry 4337, Lassen Peak Reserve, 1907. Serial Patent Files National Archives, Washington, D.C.

⁴ 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.

⁵ 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. 211.

⁶ 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 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.

⁷ Although no comparative analysis has yet been completed (as per the National Historic Landmark Survey requirements), Lassen cultural resources associated with Vulcanology 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). Howel Williams and Alexander R. McBirney, *Volcanology* (Freeman, Cooper & Co., San Francisco, 1979), pp. 16-17.

⁸ Cummings, “The World’s Wonderlands,” quoted in Earl Pomeroy, *In Search of the Golden West. The Tourist in Western America* (Lincoln and London: University of Nebraska Press, 1990 [first published 1957]), p. 142.

Annotated Bibliography

“Almanor – End of an Era.” *Plumas Memories* No. 38 (July 1973): 38.

Brief history of agricultural development and recreational use of Big Meadows and the construction of the dam and Almanor Reservoir.

Allen, Lyn. *Lassen County: Cow Country*. Susanville: Lassen County Cattlemen’s Association and Lassen County Cowbells, 1966.

Brief history of cattle ranching in Lassen county, with emphasis upon the Honey Lake and Eagle Lake regions.

Alt, David D., and Donald W. Hyndman. *Roadside Geology of Northern California*. Missoula, Montana: Mountain Press Publishing Co., 1991.

Popular description of volcanic history of Lassen Peak with emphasis on features visible from the park road.

Amesbury, Robert. *Nobles’ Emigrant Trail*. Susanville, California: Lassen Litho, 1967.

This short history includes good regional maps, showing the course of Nobles’ Emigrant Trail, and provides a synthesis of the trail’s development and use.

Anonymous. “A Jaunt to Honey Lake Valley and Noble’s Pass.” *Hutchings’ California Magazine*. 1 (June 1857): 529-541.

The author was one of a party of three who made a trip in 1854. The narrative includes a description of the party’s Indian guides and explains, by way of background, an incident in 1851 in which Peter Lassen led a party of whites and Indian Valley Indians against Pitt River Indians. According to this account, Peter Lassen killed three Pitt River Indians and with his war party drove the Pitt River Indians out of the area. The author also credits Peter Lassen as the true pioneer of the Noble’s Pass Trail, which is described.

_____. *Lassen Glimpses*. Mineral, California: Collins & Lind, 1929.

Descriptive survey of the national park, including sections on horse trails, the rugged west side district, the cinder cone region, Chaos Crags and Chaos Jumbles, and the wildlife.

_____. “Peter Lassen.” *Hutchings’ California Magazine*. Vol. 3 (1858-1859): pp. 350-352.

An obituary of Peter Lassen.

Armitage, Susan and Elizabeth Jameson, eds. *The Women’s West*. Norman and London: University of Oklahoma Press, 1987.

An anthology that includes “Illusion and Illumination: Visual Images of American Indian Women in the West,” Patricia Albers and William James. Albers and James note that “the disruption of American Indian cultures by Euro-Americans is a basic theme in western history. When we consider that conflict, however, most of us think in military and political terms. . . [Instead] we need to see culture conflict as pervasive, ongoing, and basic to our understanding of western history.” Their analysis of historic portrayals of Indian women – including Achomawi from the Susanville area – will provide a foundation for the use and discussion of the Jenkins/Snooks interviews and will provide a transition between the ethnographic and historic contexts.

Baker, Suzanne and Laurence Shoup. *An Historical and Archaeological Study of the M.A. Burns and Castle Crag Lumber Companies*. Shasta-Trinity National Forest, 1979.

Cultural Resource Report providing comparative information on timber-related cultural resources.

Baldwin, Alfred. *Dictated Recollections of Overland Journey to Oregon, 1845, and on to California, 1846, experiences in California to 1866, including service in Fremont’s Battalion and participation in the Gold Rush*. Manuscript collection.

In 1846, Baldwin arrived, from Oregon, to the Shasta area (“just south of Shasta”) and preceeded down the Sacramento Valley to Yerba Buena. He writes “We then went up to Major Redding’s diggings some 20 miles above Cottonwood, but did not find it sufficiently better to induce us to stay so we came back to where Major Redding living at Cottonwood above Red Bluff. . . I came on from there with the others as fast as a sick man with fever could be expected to travel till we arrived at the ranch of Peter Lassen, which is the

one now owned by Senator Stanford. . . . Lassen was leaving the ranch to pilot some emigrants in and as he had no one to leave in charge of the ranch he told me if I would stay there in his place he would give me a hundred dollars a week. I thought this would do very well for a sick man so accepted the offer and remained five weeks for which he paid \$500. . . . At this time Pete Lassen returned with the emigrants. In that train was John Woods.”

Ballou, Roy S. “An Account of the Eruptions of Mount Lassen.” *The Covered Wagon*. Shasta Historical Society, 1957.

Reminiscence by a local resident who witnessed eruptions and made a series of trips into the area in 1914.

Barrett, L. A. *Leaves from a Forest Ranger's Diary*. USDA Forest Service, Plumas National Forest, California.

Forester L. A. Barrett describes “Early Day History of the Plumas and Lassen [Forests],” based on his 1905 assignment to the Plumas and Diamond Mountain Forest Reserve. He includes descriptions of harvest and conservation practices on private versus reserve land; skills demanded of forest rangers; pay; living conditions; and the recreational opportunities in the immediate vicinity of Mount Lassen.

Bean, Walton. *California: An Interpretive History*, second ed. New York: McGraw-Hill Book Company, 1973.

Useful chapters on Spanish and Mexican California and “American infiltration” leading to U.S. conquest and the gold rush era.

Beck, Warren A. and Ynez D. Haase. *Historical Atlas of California*. Norman: University of Oklahoma Press, 1974.

Includes maps showing fur-trade routes within northern California.

Beckwith, Lieut. E. G. “Report of Explorations for a Route for the Pacific Railroad of the line of the Forty-First Parallel of North Latitude.” In U.S. Congress, Senate, *Reports of Explorations and Surveys*, 33rd Cong., 2d sess., Ex. Doc. No. 78, Vol. 2, 1855.

Includes reference to Honey Lake Valley and Noble’s Pass.

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

Primary source detailing the Bidwell-Bartleson party’s overland journey to California in 1841.

Billington, Ray Allen. *Westward Expansion*. New York: The MacMillan Company, 1967.

Seminal history on patterns and eras of settlement in the west, including detailed discussion of federal and private development of transportation systems.

Boyle, Errol Mac. *Mines and Mineral Resources of Plumas County*. California State Mining Bureau. Sacramento: California State Printing Office, 1920.

Provides information on the history and geology of various mining districts in Plumas County. Mining districts closest to Lassen Volcanic National Park include Butte Valley Mining District, Crescent Mills Mining District, Edmanton Mining District, Genesee Mining District, and Granite Basin Mining District.

Brewer, William H. *Up and Down California in 1860-1864: The Journal of William H. Brewer, Professor of Agriculture in the Sheffield Scientific School from 1864 to 1903*. Edited by Francis P. Farquhar. New Haven: Yale University Press, 1930.

In Chapter 6 on “The Northern Mines and Lassen’s Peak,” Brewer describes his travels through the region in 1863 including his visits to gold diggings, ranches, and Lassen Peak, where he encountered other campers. Especially valuable as a description of early recreation.

Brewster, Edwin Tenney. *Life and Letters of Josiah Dwight Whitney*. Boston: Houghton Mifflin Company, 1909.

Important source on the California Geological Survey, but contains little on Lassen Peak region.

Brown, T. “A History of the Mineral Area” May 30, 1972. Term Paper.

This paper is about the early history of Mineral. It contains narratives about the early settlers of the area and discusses some of the early vacation cabins and resorts. Interview notes with K. Bereford (early resident of

Mineral and owner of Mineral Lodge), Lester Bodine (District Ranger for the Forest Service), and William Gerber (ranch owner in Battle Creek Meadows are included.

Bullard, Fred M. *Volcanoes in History, In Theory, In Eruption*. Austin: University of Texas Press, 1962.
First chapter provides overview of historical development of volcanology.

Calhoon, F.D. and J. Eaton. "*The Lassen Trail*," 1987.

Book details the history of the Lassen Trail and includes the full text of James Eaton, an early pioneer who traveled the trail in 1849.

Carlisle, Rodney. "Charles Ellsworth and the Empire Flume." *True West*. Vol. 34, No. 2 (February 1987):24-29.

Describes construction of a major flume for driving logs out of the upper Sacramento Valley in the 1860s.

Carr, Ethan. *Wilderness by Design. Landscape Architecture and the National Park Service*. Lincoln and London: University of Nebraska Press, 1998.

Detailed analysis of evolution of NPS rustic architecture, particularly as related to designed landscapes.

Chappell, Gordon S. "Evaluation of Structures at Drakesbad, Lassen Volcanic National Park", June 18, 1975.

This report describes the NR evaluation of the Sifford log barn, frame tack house, and log cookhouse in Drakesbad. None of the structures were considered eligible for listing on the NRHP. It includes a history of Drakesbad and a description of all existing buildings (in addition to the three under consideration). Photographs of these buildings are attached in an appendix.

Chartkoff, Joseph L. "Sierra Nevada and Cascade Ranges," *Archaeology of Prehistoric North America: an Encyclopedia*, Guy Gibbon, editor. New York: Garland Publishing, 1998.

Includes detailed descriptions of prehistoric and protohistoric periods in the Cascade Range.

Coffman, P.H. *Tehama County, California: Its Soil, Climate, and General Resources*. Red Bluff, California: Tehama County Board of Trade, no date.

Survey of economy of Tehama County in the 1880s. Pertinent sections include stockraising industry, fruit growing industry, irrigation development, and the timber supply.

Colburn, Frederick H. *The Kingship of Mt. Lassen*. San Francisco, California: Nemo Publishing Company, 1922.

A history, natural history, and travel description of Lassen Peak and the surrounding region. Includes considerable detail although the organization of material is eclectic.

Colburn, Mrs. Frederick H. (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.

Popular "booster" literature extolling the geological wonders and the recreation potential of the Lassen region. Also includes descriptions of early Lassen Peak summit expeditions and a description of the spiritual importance of the peak to Lassen-area tribes.

Colby, W.H. "*A Century of Transportation in Shasta County, 1821-1920*." Occasional Publication Number Seven, Association for Northern California Records and Research, 1982.

This report focuses on all modes of transportation in Shasta County, from 1821 to 1920. Topics include early roads and ferries, stage operations and mail, freight transportation, water transportation, lumbering and land transportation, later roads, and the era of the railroad. There is also a good bibliography.

Colgan, Richard A. Interviewed by Amelia R. Fry, in April 1966. Transcript released in Berkeley, Regional Oral History Office in 1968 under the title "Forestry in the Pacific Pine Region."

Colgan provides a description of the Diamond Match Company's company town "Stirling City."

- Cook, Sherburne F. *The Conflict between the California Indian and White Civilization*. Berkeley: University of California Press, 1976.
A seminal work on the subject. Cook compiled statistics on Indian mortality and found that disease, not warfare, was the major cause of population decline among California Indians in the gold rush era.
- Cunningham, Leo T. "Famous Old Sawmills of the Shingletown Ridge." *The Covered Wagon*. Shasta Historical Society, 1965.
Brief local history of sawmills in the Shingletown/Viola vicinity north of Lassen Volcanic National Park, with emphasis on the period 1860-1880.
- Dasmann, Raymond F. "Environmental Changes before and after the Gold Rush," in *A Golden State: Mining and Economic Development in Gold Rush California*, edited by James J. Rawls and Richard J. Orsi. Berkeley: University of California Press, 1999.
Dasmann describes massive changes over the course of the nineteenth century, and argues against the common view that the gold rush was a major turning point for California's environment.
- Davis, William Newell, Jr. "The Territory of Nataqua: An Episode in Pioneer Government East of the Sierra." *California Historical Society Quarterly*. Vol. 21 (September 1942): 225-238.
A full account of the grassroots effort to form a separate territory in the region including Lassen Peak in 1856-57.
- Day, Arthur L. and E. T. Allen. *The Volcanic Activity and Hot Springs of Lassen Peak*. Washington, D. C.: Carnegie Institute of Washington, 1925.
Technical treatise on the chain of geological events leading to the 1914 eruption. Paper includes good eye-witness accounts of the 1914-1919 eruptions, quoted at length. Day and Allen are both cited in Kane's popular history (see below).
- Deloria, Jr., Vine, and Raymond J. DeMallie. *Documents of American Indian Diplomacy: Treaties, Agreements, and Conventions, 1775-1979*, Vol. 2. Norman: University of Oklahoma Press, 1999.
Seminal study on federal California Indian Policy, treaties, and cultural dislocation.
- Diller, J. S. "Geology of the Lassen Peak District." In *Eighth Annual Report of the Director of the United States Geological Survey*. Washington: Government Printing Office, 1889.
Report on Diller's 1880s surveys of the Lassen Region. 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.
- _____. "Lassen Peak—Our Most Active Volcano." *Bulletin of the Siesmological Society of America*. Vol. 6, No. 1 (March 1916): 1-7.
Report following the May 22, 1915 eruption.
- Dilsaver, Lary M., editor. *America's National Park. The Critical Documents*. Rowman & Littlefield Publishers, Inc., 1994.
A compilation of correspondence, executive orders, proclamations, and acts of congress that have defined national park and national park service development. Documents referencing or immediately pertaining to Lassen Volcanic National Park (and the park's administration and development) include, but are not limited to, "Superintendent's Resolution on Overdevelopment," prepared at the National Park Service Conference, November 1922"; Horace M. Albright's "Research in the National Parks," 1933; and the Report of the Advisory Board on Wildlife Management – "the Leopold Report," 1962.
- Dittmar, M. E. *Shasta County California*. Sunset Magazine Homeseekers' Bureau for the Board of Supervisors, Shasta County, California (on file at LAVO), no date (ca. 1920).
A classic example of boomer literature, extolling the beauty and wealth of Shasta County – "where mountain and valley meet" – to prospective settlers. Identified geographic regions include "Northeastern Shasta" and the communities of Fall River Mills, Burney, Hat Creek, and McArthur, where Dittmar identifies stockraising as the chief economic activity in the area, with "good" (irrigable) land selling for \$8 to \$15 per acre. A chapter devoted to the timber industry notes that "the lumbering industry of Shasta County gives employment to over one thousand men for the greater part of the year, and a large force in

addition is employed throughout the year in planing mills and box factories.” Nature’s bounties included not only range and timber but also the “majestic and beautiful,” with “summer homes and merry camping parties adding to the attractiveness for the sojourner.” Of the Lassen region, Dittmar writes “in southeastern Shasta the at present somewhat remote and seldom visited Mount Lassen National Monument is an unheralded wonderland. . . . In time it will be known as Nature’s Curiosity Shop.”

Drakesbad Resort Hotel Registers. 2 volumes. 1901-1927. Manuscript 59.

The hotel registers include the name of the guest, their place of residence, and their time of arrival.

Drakesbad-Sifford Papers 1900-1959. Manuscript 83.

This collection consists of a bound collection of 39 photographs associated with Drakesbad and Sifford family history from 1900 – 1959, a map, and an early Drakesbad advertisement. R.D. Sifford provides detailed commentary on a typed manuscript that accompanies the album. There are photographs of Edward Drake, the Siffords, E. Drake’s cabin, initial buildings in Drakesbad, horse and wagons, Cinder Cone, Annie Bidwell, and the eruptions of 1915. The map (1:100,000) delineates the property donated by the Siffords to Lassen Volcanic National Park.

DuBois, C.A. “Wintu Ethnography,” University of California Publications in American Archaeology and Ethnology, Vol. 36, No.1, 1935.

This ethnography describes the culture and lifeways of the Wintu Indians. Included are descriptions of kinship, religious beliefs, basketry, artifacts, and subsistence practices.

Dunscom, Guy L. *A Century of Southern Pacific Steam Locomotives, 1862-1962*. Self Published (Modesto Printing Company), 1963.

Primarily a study of locomotives, yet with a useful summary of routes and of the complex corporate history of the Southern Pacific Railroad.

Durkee, W. *Lassen National Park*, Manuscript Collection, 1915-1967. Manuscript 204.

Mr. Durkee worked for the Trust Department in Sacramento and was an enthusiastic supporter of the park. The collection contains his correspondence with Mr. Albright of the National Park Service in Washington D.C. on park boundaries, roads, and other developments. Also in the collection are 1927 and 1932 park information pamphlets published by the USDI and NPS.

Dwyer, Marian, compiler. *Ninety Years of Memories. Pioneer Living in Plumas County, California*.

Sparks, Nevada: Western Printing and Publishing Company, 1974.

Almost exclusively a history of Cromberg, California.

Edward Stuhl Collection. *Mount Lassen, 1922-1954*. Manuscript 150 Box 12 5FD.

This 148 page handwritten manuscript is the journal of Edward Stuhl. Mr. Stuhl was an avid rock climber and naturalist who traveled to the park on many occasions. The first 84 pages narrate his 1922 travels to the park. It provides descriptions of the natural history, plants, and animals he observed and of his stay in Chester. The remaining pages describe his visits from 1923-1954. There are also several landscape photographs of places in the park including a 1922 picture of Drakesbad Camp.

Eidsness, Janet. A Summary of Cultural Resource Studies and Report on the 1987 Archaeological Site Resurvey, Lassen Volcanic National Park, California. Report prepared by Redwood National Park Service Staff, Arcata, March 1988.

This report details the results of the 1988 resurvey of the Manzanita Lake area. A summary of cultural resource studies completed in the park as well as a description of Native American consultations and planning documents is provided in the first section. The second section describes the recorded sites, provides narrative on site conditions, and offers management recommendations.

Elliott, T. C. *Peter Skene Ogden: Fur Trader*. Portland: Oregon Historical Quarterly, 1910.

Mentions Lassen Peak region in relation to the Hudson Bay Company trader’s expeditions to California, initially via the Snake River Country.

Evison, Herbert S. *The Civilian Conservation Corp*. A Manuscript prepared by Herbert S. Evison in 1968 at the request of Amelia Fry and as a supplement to the Regional Oral History Office interview,

“Herbert Evison and Newton B. Drury: The National Park Service and the CCC, 1963.” The Bancroft Library, Regional Oral History Office. Manuscript accessioned 1974. Written 1968.

Document is very general and national in scope yet provides valuable information re: the 1930s genesis of Albert Good’s landscape architecture series (see Secondary Sources, above).

Fairfield, Asa Merrill. *Fairfield’s Pioneer History of Lassen County*. San Francisco: H.S. Crocker, ca. 1872.

Ms. Fairfield, early pioneer in Lassen County, describes the history of Lassen County from the “beginning of the world” to the “Year of Our Lord, 1870.” Included are biographies of Governor Isaac Roop and Peter Lassen and the history of Lassen’s Trail and Roop’s Settlement; the murder of Harry Gordier and the hanging of Snow Edwards and “Lucky Bill”; the Ormsby Massacre; the Boundary Line War; the Pearson Massacre; and “many stories of Indian warfare never before published.”

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.

Voluminous account relating details on early settlement, political organization of the counties, transportation and communication development (including specific wagon roads such as the Chico and Humboldt Wagon Road to Honey Lake) mining, geology of Lassen Peak region, and conflict between Indians and non-Indians. Also included are several historical documents.

Farquhar, Francis P., editor. *Up and Down California in 1860-1864. The Journal of William H. Brewer, Professor of Agriculture in the Sheffield Scientific School from 1864 to 1903*. Berkeley and Los Angeles: University of California Press, 1966 (third edition).

Brewer’s account includes chapters entitled “Up the Sacramento River”; “Mount Shasta”; “West and East of the Sacramento River”; and “The Northern Mines and Lassen’s Peak” (including sub-sections “View from the Summit” and “Volcanic Activity”). In addition to early physical descriptions of the project area, Brewer provides general background information on the Gold Rush era and north-central California’s agricultural potential as assessed in the 19th century. References to Mount Joseph/Mount Lassen are extensive and document the mountain’s importance as a geographic and, later, cultural landmark to area explorers and residents. The editor’s notes are invaluable, tying current landmarks to historic names and providing regional and national contexts.

Federal Writers’ Project. *California: A Guide to the Golden State*. New York: Hastings House Publishers, 1939.

The Federal Writers’ Project produced a series of guides that provided roadside history and geographic information along various auto tour routes. Tour 5 in this book includes Lassen Volcanic National Park and describes road conditions, amenities, and tourist attractions of the time.

Ferguson, Charles D. *A Third of a Century in the Gold Fields*. Chico, California: M. A. Carson, 1888. In chapter IX, Ferguson describes Lassen’s Ranch; placer-mining in the Feather River/Rich Bar region; trade along the mining trails; and life in camp.

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

R. H. Finch was associate volcanologist in the Section of Volcanology, and took charge of the observatory at Mineral, California in 1927. This study used dendrochronology to date recent volcanic events at Cinder Cone.

Finch, R.H. 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 (1930): 245-273.

Report of Finch and Anderson’s study of the magnetic orientation of crystals in basalt flows. The men determined that there had been four or five separate lava flows from Cinder Cone, not two earlier scientists (Diller) had described.

- Frank, B.F. and H.W. Chappell. *The History and Business Directory of Shasta County*. Redding, California: Redding Independent Book and Job Printing House, 1881.
This book contains considerable information on early settlement, mining activity, and transportation in the valley of the Upper Sacramento River (Pit River) as well as shorter sections on the following locales: Horsetown, Shasta, Round Mountain or Cow Creek Mining District, Millville, Fall River Valley, Burney Valley, Redding, Cottonwood, Anderson, Bell's Bridge, Copper City, and Churntown.
- Garth, Thomas R. "Emphasis on Industriousness Among the Atusgewi." *American Anthropologist* 47 (1945): 554-566.
Particularly valuable for discussion of subsistence patterns.
- Garth, T.R. "Atsugewi Ethnography," *Anthropological Record*, Vol.14, No.2, 1953, pp. 129-212.
This ethnography describes the culture of the Atsugewi Indians. Included is discussion of native plants and animals utilized by the Atsugewi, as well as descriptions of artifacts, basketry, kinship, and ceremonies.
- Gardner, E. G. "Miners' Dormitories at the Engels Mine." *Engineering and Mining Journal*, Vol. 110, No. 24 (December 11, 1920), pp. 1124-1125.
The Engel Mine in Plumas County was the nearest copper mine to Lassen Volcanic National Park.
- Gaston, Henry. *A Lecture on California*. Speech prepared for delivery in Omaha. 1869, manuscript collection.
In the hyperbolic terms typical of the era, Gaston describes northern California as "generously well covered with trees consisting of oaks, ash, maple, laurel, and the redwood, a species of cedar which furnishes a large proportion of the building material of the state. . . . Short streams of living water flow from the mountains to the sea . . . many thermal springs are found, abounding in valuable medicinal properties which are much resorted to by seekers of pleasure as well as invalids in pursuit of health."
- Gates, Paul W. with a chapter by Robert W. Swenson. *History of Public Land Law Development*. Written for the Public Land Law Review Commission. Washington D.C.: Zenger Publishing Co., Inc., 1968.
General reference book to Public Land Law, including federal intent and requirements for filing and for patent. Descriptions of the "Advent of Dry Farming"; Desert Land Act; Enlarged Homestead Act; and Stockraising Homestead Act are especially relevant to the project area. Includes statistics related to patent rate under various land legislation throughout the semi-arid West (exclusive of California).
- Gifford, E.W. and Klimek, Stanislaw. "Cultural Element Distributions: II, Yana," *University of California Publications in American Archaeology and Ethnology*, Vol.37, No.2., 1936, pp. 1-254.
This publication describes the culture of the Yana Indians. It includes descriptions of artifacts, clothing, subsistence (plants and animals), settlement types, games, and ceremonial events.
- Giles, Rosena A. *Shasta County California: A History*. Oakland, California: Biobooks, 1949.
Topical chapters include Chinese immigrants in Shasta County, fisheries, and natural wonders of Shasta County including Lassen Peak.
- Godfrey, G.K. "Lassen's Peak." *Hutchings' California Magazine*, Vol.4 (1859-60), pp. 299-302.
Describes the landscape of Lassen Peak and the surrounding area.
- Goetzmann, William H. *Exploration and Empire: The Explorer and the Scientist in the Winning of the American West*. New York: Alfred A. Knopf, 1966.
Useful chapter on the California Geological Survey.
- Goss, Joe. "The Cattle Industry in Plumas and Sierra Counties." *California Cattleman*, November 1967, reprinted in *Plumas Memories*. Quincy: The Plumas County Historical Society, June 1985.
Brief history of the early (pre 1900) cattle industry, including descriptions of range and range conditions.
- Hafen, LeRoy R. *The Mountain Men and the Fur Trade of the Far West*. Vols. 3, 5. Glendale, California: Arthur H. Clark Company, 1966.
Chapter on Peter Skene Ogden includes narrative of his travels through northern California in 1829-1830. Chapter on Michel Laframboise describes his activities in northern California in 1837.

Hanft, Robert M. *Red River. Paul Bunyan's Own Lumber Company and its Railroads*. Chico: Center for Business and Economic Research, California State University, n.d. [post 1970].

Includes a detailed chapter on the Red River Lumber Company's company town of Westwood, just south and east of Lassen Volcanic National Park.

Hammond, Andy. "Peter Lassen and his Trail." *Overland Journal*. Vol. 4, No. 1 (Winter 1986): 33-41.

This is a concise article that compiles several sources about Peter Lassen and the Lassen Trail. There are several photographs of different portions of the trail and Lassen's original grave marker as well as sketches of a sleeping Peter Lassen and Lassen's Ranch.

Hanson, L.S. *Archaeological Site Testing and Monitoring at CA-PLU-969/H Drakesbad Sewer Rehabilitation Lassen Volcanic National Park*. Submitted to Redwood National Park, Arcata, February 1990.

Report describes results of 1989 testing and monitoring of site, CA-PLU-969/H. Artifacts encountered during testing include flakes, formed tools, and historic debris (glass, ceramic, and pipestone fragments). The site was recommended eligible for listing in the National Register of Historic Places.

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

A good secondary source for regional geographic context. Harris's work includes a good map of the Cascade Range, showing Lassen Peak and Cinder Cone at the southern extreme, and good narrative text on "Our Western Volcanoes: An Introduction." Maps will be used with permission of the author.

Harrison, Laura Souilliere. *Architecture in the Parks: National Historic Landmark Theme Study*. Washington, D.C.: Government Printing Office, 1986.

In 1986, NPS Architectural Historian Laura Souilliere Harrison evaluated the national architectural significance of private and federal buildings 1) within boundaries of an area of the National Park System and 2) constructed for visitor-use, interpretive, or administrative purposes. The resultant NHL theme study concluded with the NHL listing of 30 buildings and districts, spread throughout 16 western NPS units. Although ultimately not selected for NHL designation, the Mineral Headquarters complex (administrative and residential buildings) at Lassen Volcanic National Park informed the architectural context associated with the theme study. Harrison provides a succinct description of the formation of the NPS Landscape Division/Branch of Plans and Design and the evolution of a recognizable NPS design aesthetic. Ultimately, Harrison argues, NPS designers projected an image through environmentally sensitive rustic design, as clearly as did the concessioners who selected Swiss chalet (Glacier) or southwest pueblo (Grand Canyon) themes: "the image of an agency with roots in the preservation of America's heritage." Harrison also addresses, albeit briefly, the importance of Work-Relief Programs to implementation of park master plans.

Haynes, William. *The Stone that Burns: The Story of the American Sulphur Industry*. New York: D. Van Nostrand Co., Inc., 1942.

General history of the national sulphur industry, with section on California.

Healy, Jesse. "My Reminiscences." *Quarterly of the Society of California Pioneers*. Vol. 9, No. 4 (December 1932): 249-257.

Describes an overland journey to California in 1849 and experiences in the diggings on the Feather River in 1849-52. The party stayed at Peter Lassen's ranch when it first arrived in the region.

Heinz, Lois. *Red River Goes West. The Story of an Idea*. Westwood, California, Bend, Oregon: Maverick Publications, 1988.

Expanding upon the information presented in Hanft (see above), Heinz describes the sale of the Red River Lumber Co. to the Fruit Growers Supply Company of Anderson, California.

Heizer, Robert F. (editor). *Handbook of North American Indians*, California, Volume 8. Smithsonian Institution, Washington D.C.

There are several chapters in the California edition of the Handbook of North American Indians that would be relevant to the ethnographic context for the Lassen Region. Chapters include ethnographies for the Yana, Maidu, Wintu, and Atsugewi.

Heizer, Robert F., and Theodora Kroeber. *Ishi the Last Yahi: A Documentary History*. Berkeley: University of California Press, 1979.

Relating to the “last wild Indian in North America,” a man who lived with a few fellow tribesmen in the wilderness around Lassen Peak until he came out of the woods in 1911.

Helfrich, Devere. “The Applegate Trail.” In *Klamath Echoes*. Klamath County Historical Society, 1971. Detailed account of the southern trail to the Willamette Valley, from which Noble’s Trail forked.

Helfrich, Devere, Helen Helfrich, and Thomas Hunt, compilers. *Emigrant Trails West. A Guide to Place Markers Placed by Trails West, Inc. Along the California, Applegate, Lassen, and Nobles’ Emigrant Trails in Idaho, Nevada, and California*. Reno, Nevada: Trails West, Inc., 1984.

As suggested by the title, this book is primarily valuable as a hiking and driving guide to the historic trail corridors. For purposes of this study, the guide provides important information on the relative integrity of those sections of the Nobles’ Trail within the park boundary. The histories of each trail section, with appropriate overview and regional maps, are also succinct and well-documented.

Hogue, H. *Wintu Trails*. Redding Printing Co. Redding, 1977.

This book is a collection of short biographies of Wintu people recorded by Ms. Hogue, local amateur historian. It includes text to a Wintu legend, “The Bird with the Wounded Wing”. collection of Wintu words, brief narrative of the Wintu culture, Wintu traditional recipes and information on petroglyphs at Church Rock. There are several photographs of Wintu baskets. Originally published as “Peaceful Now the Trails.”

Holway, Ruliff S. “The Volcanic Activity of Lassen Peak, California,” *The Popular Science Monthly*, Vol. 86 (January to June 1915), pp. 296-298.

University of California Geologist’s report on the 1915 eruptions.

Hurtado, Albert L. *Indian Survival on the California Frontier*. New Haven: Yale University Press, 1988.

A new social history of Indian-white relations in the Spanish, Mexican, and American periods, it focuses on the Indian family and Indian women in particular as key elements in the Indians’ adaptation to white occupation of California.

Hutchison, Daniel J. and Larry R. Jones, editors. “Emigrant Trails of Southern Idaho.” Boise: Bureau of Land Management and Idaho State Historical Society, January 1993.

This report provides a detailed discussion of the original route of the California Trail and the Salt Lake Alternate, as well as a discussion of extant trail segments.

Immigration Association of Shasta County. *Descriptive Circular of Shasta County California. 1885*. Manuscript Collection.

This circular includes a general description of the eastern half of the county – “not only geographically larger in extent than the western, but is also less settled and there being no private grants on the east side, the opportunity to acquire Government and railroad land is much greater” – and of local stage runs carrying “US Mail, Wells Fargo & Co. express, and passengers. In 1884, a daily stage ran from Redding to Millville, Oak Run, Morley’s, Montgomery Creek, Burney Valley, Fall River Mills, Burgettville, Bieber, Lassen County. The circular further describes the south border of T31N R2W at Klotz Mill, as land upon which “the finest of fruit and berries are raised, and some of the best hay and vegetable ranches in the county are to be found.”

Ise, John. *Our National Park Policy: A Critical History*. Johns Hopkins Press, Baltimore, 1961.

A standard source on national parks administrative history, Ise emphasizes the interaction between the mission-oriented National Park Service and the inconsistent, often impecunious directives contained in legislation by Congress.

- Jackson, W. Turrentine. *Wagon Roads West. A Study of Federal Road Surveys and Construction in the Trans-Mississippi West, 1846-1869*. Lincoln and London: University of Nebraska Press, 1964.
This seminal study of the role of the federal government in western “colonization” includes a chapter on improvement of the Central Overland Route between Fort Kearny and Honey Lake (just east of the project area), as well as a more general discussion of early wagon-road route exploration and survey, 1846-1861.
- Jelinek, Lawrence James. “Property of Every Kind: Ranching and Farming during the Gold-Rush Era,” in *A Golden State: Mining and Economic Development in Gold Rush California*, edited by James J. Rawls and Richard J. Orsi. Berkeley: University of California Press, Berkeley, 1999.
Useful article in an excellent volume of recent scholarship.
- Johnson, Beulah. *Chips and Sawdust: A History of Sawmills, the equipment they used and the towns that built around them*. Shasta Historical Society, 1978.
Local resident and historians detailed account of the northern California timber industry, ca. 1860-ca. 1910 with emphasis on community development and technological innovations.
- Johnson, J.J. *Archaeological Investigations In and Around Lassen Volcanic National Park in 1975*. Submitted to the United States Department of Interior, NPS, Tucson, August 1975.
This report discusses the results of archaeological surveys conducted in the Lassen Ski Facilities/Sulphur Works, Bluff Falls, Table Mountain, Lost Creek, and Warner Valley areas. It provides ethnographic and historic backgrounds, as well as a history of previous archaeological investigations in the region.
- Journey, A.E. *An Archaeological Survey of Lassen Volcanic National Park, California*. Thesis, Department of Anthropology, California State University, Sacramento, 1974.
This thesis describes the results of an archaeological survey conducted in specific portions of Willow Lake, Warner Valley, Manzanita Lake and Manzanita Creek areas
- Kane, Phillip S. *Through Vulcan’s Eyes. The Geology and Geomorphology of Lassen Volcanic National Park*. Lassen Loomis Museum Association (published in cooperation with the National Park Service), 1998 (fourth printing).
Kane, a professor of Geography at California State University, Northridge, has presented a popular text on the landforms and geology of Lassen Volcanic National Park, for the use of “the Park visitor who wishes to understand the origin of this unique region” – or, alternatively, for the geologically illiterate historian who demands a simple introduction to the complex geology of the park and the scientific issues that placed the park at the center of federal and private geological study. Kane based his work not only on personal observation but also several scholarly reports published over a 50-year period (1925-1975), including those of A. L. Day, E. T. Allen, Howel Williams, and D. R. Crandell; the work therefore serves as an important synthesis of the body of geological material related to the park. Chapters include an introduction to the geographic setting; rocks and the nature of geological processes; tectonic landforms; and the chronology of geological events. The book concludes with an 8-page glossary.
- Kirov, George. *Peter Lassen. Highlights on his Life and Achievement*. Sacramento, California: Senate of the State of California (State Printing Office), n.d.
This brief history, based upon Fairfield’s *History of Plumas, Lassen, and Sierra Counties* (see above), and on oral histories, includes chapters describing the Upper Sacramento Valley during the gold-rush era and emigrant travel along the Lassen Cut-off.
- Kniffen, F.B. “Achomawi Geography,” *University of California Publications in American Archaeology and Ethnology*, 1928.
Report includes discussion on territory utilized by the Achomawi Indians. Included are descriptions and names of mountains, rivers, and other topographic features.

Knudtson, Peter M. *The Wintun Indians of California and their Neighbors*. Happy Camp, California: Naturegraph Publishers, Inc., 1977.

Kroeber, A.L. *Handbook of the Indians of California*. Smithsonian Institution, Bureau of American Ethnology, Bulletin No.78, 1925.

This book provides a detailed description of the Indians of California including Indians of the Lassen National Park region.

Langston, Nancy. *Forest Dreams, Forest Nightmares: The Paradox of Old Growth in the Inland West*. Seattle: University of Washington Press, 1995.

Langston examines the historic context of and ecological factors underlying the forest health crisis in the intermountain West. While applicable to many areas throughout the American West, Langston focuses on the Blue Mountains of northeastern Oregon and southeastern Washington, tracing the interconnections between Forest Service policy, land management practices, and the effects currently manifested on the landscape in the form of altered fire regimes, insect epidemics and tree disease.

Lassen County Chamber of Commerce. "Lucky Lassen. The 49ers called it "The Land of the Neversweats." 1930.

Popular and hyperbolic history of Lassen County, with descriptions of emigrant trails, the timber industry, agriculture, and the development of Lassen Volcanic National Park and associated transportation system: "Mount Lassen Volcanic National Park is declared by authorities to be one of the greatest scenic areas on the continent. The interior highway system, built by the United States government, has now reached a stage of completion whereby the motorist can reach many of the outstanding wonders without difficulty. The Mt. Lassen Volcanic Highway from Reno to Red Bluff brings the motorist to the south end of the Park. By rail, take the Southern Pacific to Westwood or the Western Pacific to Keddie and connect with the highway busses of the Mt. Lassen Transit Co."

Lewis, Henry T. "Patterns of Indian Burning in California: Ecology and Ethnohistory." In *Before the Wilderness: Environmental Management by Native Californians*, edited by Thomas C. Blackburn and Kat Anderson. Menlo Park, California: Ballena Press, 1993.

Discussion of indigenous fire practices and their ecological effects in central and northern California. Fire ecology overview of major vegetation zones: woodland-grass, chaparral, and coniferous forest. Within each zone, Lewis presents ethnographic evidence of how California Indians have used fire for cultural purposes including: stimulating the growth of desired plant species, facilitating the harvest of seeds, and eliminating pests.

Lewis, J. Volney, and Sumner M. Anderson. "The Geologic History of Lassen Volcanic National Park." Unpublished paper prepared for the National Park Service, November 1935.

Narrative history of mountain-building forces and resulting features in and around Lassen Volcanic National Park. Based on scientific papers and adapted for public interpretation. Places Lassen Peak in context with other volcanoes. Includes critical comments by Superintendent Daniel J. Tobin.

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

A defining work of the "new" western history, with focus on land acquisition as practiced and as encouraged by federal land laws. No data specific to Lassen Volcanic National Park.

Lintz, Ed. "The Gladstone Mine: A 30 year fascination." In *The Covered Wagon*. Shasta Historical Society, 1985.

The Gladstone Mine is located in Cline Gulch northeast of French Gulch and was active in the late nineteenth century.

Loomis, B. F. *Pictorial History of Lassen Volcano*. Lassen Loomis Museum Association (published in cooperation with the National Park Service), 1947 (second edition).

B. F. Loomis, founder of the Loomis Museum, logger, and owner of the Viola Hotel provides the classic eye witness account and photographs of the Lassen eruptions. In addition to his own descriptions, Loomis also quotes extensively from local journalists and prominent geologists (including George Grinnell; Howel Williams; J. S. Diller). The NPS, which has published repeat editions of the *Pictorial History*, presents the

document as of primary value as a contemporary account/primary document for the “non-technical reader” rather than as an important contribution to the geological literature. In the second edition, Park Naturalist Paul E. Schulz writes “an effort has not been made to change the colorful style of the author, nor to change his views as presented in the original edition. Corrections of scientific fact . . . have been introduced by means of footnotes. . . . Deletion of three pages of unsound theory which would only prove bewildering . . . has . . . been made.” Many of Loomis’s photographs are available through the Shasta Historical Society and the National Park Service.

Lydon, Philip A., and J. C. O’Brien. *Mines and Mineral Resources of Shasta County, California*. Report No. 6. Shasta County, 1967.

Description of various mining operations as well as geological history. Mines near Lassen Volcanic National Park include Potato Butte (pumice) and Old Station (sand and gravel).

Mackintosh, Barry. *Shaping the System*. U.S. Department of the Interior, Washington, 1991.

A clear and concise presentation of how the National Park System evolved from national parks to include the myriad types of land designations today. Organized by era and emphasizing changes in presidential administrations and directors of the National Park Service, it systematically notes the inclusion of every new unit in the system.

Maloney, Alice Bay, ed. *Fur Brigade to the Bonaventura: John Work’s California Expedition 1832-1833 for the Hudson’s Bay Company*. San Francisco: California Historical Society, 1945.

The foreward by Herbert Eugene Bolton provides a good overview of the fur trade in northern California.

Martin, Oscar F. “Pioneer Sketches—I. The Old Lassen Trail.” *The Overland Monthly*. Vol. 2—Second Series (July-December 1883): 74-82.

Describes the trail pioneered by Peter Lassen and used by Forty-niners, including physical landmarks and the debris left by travelers that could still be seen along the trail some thirty years after its abandonment.

Also describes efforts to turn part of the trail into a permanent wagon road.

Masterson, Grace Gratton. “Cattle Drives of the Eighties and Nineties.” *The Covered Wagon*. Shasta Historical Society, 1963.

Fifty-mile cattle drives in the early 1880s between Redding and Trinity Center, based on recollections of the author’s father.

McAfee, Ward. *California’s Railroad Era, 1850-1911*. Golden West Books, San Marino, California, 1973.

A history of railroad development in California emphasizing the politics of railroad subsidies, rate schedules, and competition between the Big Four companies. Selected chapters provide background on railroad development in the upper Sacramento Valley south of the Mount Lassen region.

McAfee Brothers, Land Agents. Tehama County California. Geography, Topography, Soil, Climate, Productions, Etc. San Francisco: McAfee Brothers, 1884.

Booster literature extolling the possibilities for agriculture (“already the value of [California’s] wheat crop largely exceeds her annual product of gold, and the value of her wool and wine will in the course of a few years surpass that of her precious metals, silver and gold combined”) and of timber (“the mountain forests . . . composed of pine, spruce, fir and cedar, furnish lumber of unequalled excellence. The trees her stand thick upon the ground; are straight and stately, ranging from one to two hundred feet in height, and measuring from six to ten feet across at the butt.”)

McClelland, Linda Flint. *Presenting Nature: The Historic Landscape Design of the National Park Service*. USDI NPS Interagency Resource Division, 1993.

The most comprehensive history of the NPS Branch of Plans and Design published to-date, McClelland provides a national context for the identification, evaluation, and National Register registration of NPS designed landscapes as constructed in the 1920s and 1930s. Of enormous aid to boundary delineation and resource evaluation, McClelland’s work also provides important context on the intent of the design program, means of implementation, the role of park roads as “parent landscapes” linking administrative, concession, and scenic resources, Master Plan development, and the Depression-era make-work programs that made realization of these plans possible.

McDonald, Lois Halliday. *Fur Trade Letters of Francis Ermantinger, 1818-1853* Glendale, California: Arthur H. Clark Company, 1980.

Ermantinger led the yearly Hudson Bay Company brigade from Fort Vancouver to California during the 1830s and early 1840s.

McKevitt, Jerry. "'Gold Lake' Myth Brought Civilization to Plumas County." *Journal of the West*. Vol. 3, No. 4 (October 1964): 489-500.

In 1850, Thomas Stoddard claimed to have discovered a mountain lake near the headwaters of the Feather and Yuba rivers whose shores were lined with gold nuggets. Stoddard's unsuccessful return expedition precipitated a gold rush. As the myth proved a disappointing reality, its drawing power was replaced by reports of actual discoveries on the Feather River. By the end of the year scores of mining camps had sprung up along this river and its tributaries.

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

Brief description of Tehama County sheep industry, with focus on Red Bluff vicinity yet also including descriptions of stock drives to high-country range.

Medlin, William K. *Fire Mountain. A Nation's Heritage in Jeopardy*. Sunstone Press, Santa Fe, New Mexico, 1996.

Indictment of NPS administration of Lassen Volcanic National Park, evolving from a never-published administrative history prepared under contract to the National Park Service. While primarily an environmental history assessing man's changing relationship and response to the Lassen region, from prehistoric to modern times, Medlin's study also provides the base line administrative data regarding funding sources, changes in administration and personnel, etc. Evaluated by the National Park Service as a non-credible source, rife with errors.

Milford, G. R. "The Eruptions of Lassen Peak and the early history of Lassen Volcanic National Park."

Oral history interview by L. E. Bronson and P. E. Schultz, February 8, 1955. Association for Northern California Records and Research, California State University, Oral History Program, Northeastern California Project.

Contains details on hydroelectric development on Battle Creek. Interview with G.R. Milford, former superintendent of the Northern California Power Co. (now Pacific Gas & Electric Co.), by L. Bronson and P. Schultz. Mr. Milford discusses the history of the Lost Creek Ditch and Flume, construction of the Manzanita Lake dam, the 1914 eruption, and planting fish in Manzanita and Mud Lakes.

Miller, Char. *Gifford Pinchot and the Making of Modern Environmentalism*. Washington: Island Press, 2001.

A significant new biography of the first chief of the USDA Forest Service and self-styled founder of the conservation movement.

Morgan, Dale L. *Jedediah Smith and the Opening of the West*. Indianapolis: Indiana University Press, 1953.

Smith, a fur trader, made two expeditions to California in the 1820s, passing near the Lassen Peak region.

Myrick, David F. *Railroads of Nevada and Eastern California. Vol. One: the Northern Roads*. Berkeley: Howell-North Books, 1962.

Includes a chapter on the Western Pacific Railroad (pp. 316-333) that provided the nearest rail access to Lassen Volcanic National Park (Kedding Station).

National Park Service. *Park Structures and Facilities*, 1935 (out-of-print manuscript available through the NPS Denver Service Center Technical Information Center, Denver, Colorado).

One of four classic contemporary texts on NPS Rustic Design, in company with Albert Good's three volume *Park and Recreation Structures* (1938). In his introduction NPS Director Arno B. Cammerer writes: "in any area in which the preservation of the beauty of Nature is a primary purpose, every modification of the natural landscape . . . is an intrusion. A basic objective of those who are entrusted with development of such areas . . . is to design [these intrusions so that] they appear to belong to and to be a part of their

setting.” A definitive essay of Rustic design philosophy and drawings and narrative descriptions of a wide range of structures and buildings follow Cammerer’s introduction.

Nelson, Lawrence. *Peter Lassen. The Cecil Rhodes of Northern California*. Translated from the Danish by Peter Guldbrandsen. No date. Manuscript Collection.

Nelson provides biographical information on Lassen, including his years in Denmark and early years in the United States (until 1839). Also describes initial arrival in the Lassen region and development of the Lassen Cutoff, emigrant trail.

Neri, M. and J. Hamilton. *History and Prehistory of the LaTour Demonstration State Forest Shasta County, California*. CDF Archaeological Reports Number 20, 1997.

This report provides a good general overview for the history of Northern California and more specifically the region northwest of Lassen Volcanic National Park. Early histories of the lumber, mining, and shake making industries are reviewed and the life history of James LaTour, an early settler in the region presented.

Nilsson, E., R. Bevill, and J.J. Johnson. *Archaeological Investigations at CA-PLU-969/H Drakesbad Resort, Warner Valley, Lassen Volcanic National Park, California*. Prepared for National Park Service, Redwood National Park, 1996.

Report on archaeological investigations at site, CA-PLU-969/H. The report gives ethnographic, prehistoric and historic backgrounds, including the history (both a narrative description and a constructive timeline) of the Drakesbad Resort and histories of the Drakesbad and Sifford occupations. The report provides a detailed description of the historic artifacts, which include glass, ceramic, metal, and pipestone fragments, coins, personal artifacts, clothing, ammunition, and structural artifacts. Artifacts were mainly deposited prior to 1940 and are associated with Edward R. Drake occupation and early Sifford occupation.

Nobles, William H. *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.

Before Congress, Nobles argues for federal funding of an international railroad from Minnesota to California – “the opus magnum in National Improvements” – over South Pass and Nobles’ Pass. Nobles “[speaks] of the pass through the Sierra Nevadas, which bears my name, and [endeavors] to impress upon the minds of this meeting, its superiority over all other routes.”

O’Brien, J. C. *Mines and Mining in Tehama County, California*. California Division of Mines, 1946. Includes maps.

Olmsted, R. R. *Scenes of Wonder & Curiosity from Hutchings’ California Magazine, 1856-1861, Embellished by three hundred engravings of California Life and Scenery*. Berkeley, California: Howell-North Publishers, 1962.

Included in this volume is an anonymous 1857 description of a “Jaunt to Honey Lake Valley and Noble’s Pass.” It includes descriptions of ranches passed enroute; a comparative analysis of the virtues of seven routes across the Sierra’s (Noble’s Pass being the “only good natural pass”); encounters with “Indian Valley Indians”; anecdotal references to the Pitt River Indians; physical descriptions of Lassen’s Meadows and Big Meadows; and a description of “Lassen’s Butte” as seen from Lassen’s Meadow: “in the distance, bold, grand, and cold, towered Lassen’s Butte; but when the sun arose and gilded it with rosy, golden sun-light, it was gorgeous – it was magnificent.” Use of Mount Lassen as a reference point and place marker, and descriptions of the peak as magnificent, are common in the mid-19th century literature.

Osofsky, L. *Preliminary Report on the Recent Volcanic Activity of Lassen Peak*. Berkeley: University of California Press, 1914.

Report details the Mount Lassen eruptions of 1914.

Parker, Albert J. “Fire in Sierra Nevada Forests: Evaluating the Ecological Impact of Burning by Native Americans.” In *Fire, Native Peoples, and the Natural Landscape*, edited by Thomas R. Vale. Washington, D.C.: Island Press, 2002.

Discussion of fire ecology and Native American burning practices in the Sierra Nevada of California and Nevada. Parker compares past and present Sierran fire regimes based on fire scar and charcoal evidence. He concludes by outlining research gaps and possible management implications of these findings.

Parsons, Arthur B. "Operations of the Engels Copper Mining Company --I," *Mining and Scientific Press*, July 30, 1921.

The Engels Mine in Plumas County was the nearest copper mine to Lassen Volcanic National Park.

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

A standard reference work emphasizing continuities from one mining region to the next, as well as the seminal role of the California gold rush.

Phillips, Paul C., editor. *Forty Years on the Frontier as seen in the Journals and Reminiscences of Granville Stuart, Gold-Miner, Trader, Merchant, Rancher, and Politician*. Glendale, California: The Arthur H. Clark Company, 1967.

Stuart joined the gold rush in 1852, traveling to California via Truckee and Donner Pass (south of the Lassen and Noble cut-offs). Soon discouraged by the profits in mining (as found in the Feather River region), he turned to trading and packing along the immigrant roads. Although the bulk of the two volume work covers Stuart's years as a Montana rancher and politician, chapters relevant to the Lassen study include "Overland to California" and "Experiences in California."

Pope, Saxton T. "The Medical History Of Ishi." *The University of California Publications in American Archaeology and Ethnology* 13, no. 5 (1920).

One of many Yana-Yahi ethnographic sources based upon Ishi's life.

Pratt, Harry Noyes. "A Woman Pioneer on Lassen's Peak." *Overland Monthly and Out West Magazine*. Vol. 82 (November 1924): 488, 524.

Describes the first ascent of Lassen Peak by a woman, Helen Brodt, in 1864.

Pyne, Stephen J. *Fire in American: A Cultural History of Wildland and Rural Fire*. Princeton: Princeton University Press, 1988.

This is probably the most exhaustive and thorough cultural history of wildland fire in the United States in print. Pyne begins by discussing the first humans who entered the continent millennia ago, and the fire that they brought with them. He then traces the myriad ways in which indigenous peoples and European settlers unleashed fire on the landscape, how they interacted with wildfire, the ecological effects of these practices, and how all of that influenced culture. Scattered throughout the book are regional fire histories, including the type of fire problems encountered in those regions and the fire policy precipitated by those problems. Pyne's prose is extremely readable, and the book contains extensive endnotes.

Rasmussen, Louis J. *California Wagon Train Lists*. Vol. 1 (April 5, 1849 to October 20, 1952). Colma, California: San Francisco Historic Records, no date.

List of passenger names who rode the overland trains to the West. Pioneer families and emigrants.

Rawls, James J. *Indians of California: The Changing Image*. Norman: University of Oklahoma Press, 1984.

Rawls examines Indian-white relations before and after the American conquest, focusing on white perceptions and ideas about Indians. The Lassen Peak region is treated in passing.

Ray, Beulah. "Burney the Squaw Man." *Overland Monthly*. Vol. 70 (July 1917): 2-22.

A contemporary description of Indians living in Hat Creek Valley near Lassen Peak, together with an Indian legend of a prehistoric lake at the same locale.

Read, Georgia Willis and Ruth Gaines editors. *Gold Rush. The Journals, Drawings, & Papers of J. Goldsborough Bruff, April 2, 1849-July 20, 1851*. New York: Columbia University Press, 1949.

An invaluable source of drawings, maps, and descriptions of emigrant travel and frontier life. Bruff provides well-documented, literate, and perceptive descriptions of travel along both the Lassen and Nobles' trails. Editors Read and Gaines link historical descriptions to current landmarks and place Bruff's comments within a national political, economic, and cultural context.

Record Group 57: Records of the U.S. Geological Survey

USGS records are organized according to divisions that represent major natural resources or mission areas. The bulk of material accessioned at San Bruno post-dates 1965 and is not directly relevant to the Lassen

Volcanic National Park Historic Resource Study. Material reviewed was limited to Program Mission Correspondence, four cubic feet of textual and nontextual records related geothermal processes, oil deposits, and other geological matters in sites throughout the western United States (including Mount Lassen). Periodic reports and publications duplicated those available at the Geology Library, University of California Berkeley (see below).

Reed, Karen Lea. *The Chinese in Tehama County, 1860-1890*. Research Paper Number Six. Association for Northern California Records and Research, Chico. 1980.

Although concentrated on the Chinese communities in Red Bluff and Tehama, Reed provides general background information on the important role of the Chinese in the placer-mining industry (working diggings abandoned by white miners) and provides detailed information from the 1860, 1870, and 1880 Tehama County census (with comparative analysis).

Rickard, Thomas A. *A History of American Mining*. New York, 1932.

History of evolving mining technology, with important photographs and diagrams documenting cultural resource manifestations and possible impacts on the build environment. A supplement to Otis Young, *Western Mining* (see below).

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

General source for information re: federal land legislation as it pertained to the West.

Robinson, Harry G., and Beth Shuford. "Benjamin Franklin Loomis and his Wife Estella." In *The Covered Wagon*. Shasta Historical Society, 1975.

Detailed history of the Loomis's development of the Viola and Manzanita Lake communities, the importance of the Ben Loomis photographs to public awareness of the Lassen region, and the construction of the Loomis Museum at Manzanita Lake.

Rosenhouse, Leo. "Peter Lassen's Lost Gold." *True Treasure* January-February 1972: 38.

Includes map showing location of Lassen's ranch and Lassen and Noble Trails

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

Includes description of the Dutch Hill Mine improvements, including the Rice Creek ditch.

Rothman, Hal. *America's National Monuments: The Politics of Preservation*. University Press of Kansas, Lawrence, 1994.

A history of the origins and use of the Antiquities Act of 1906 and the administration of national monuments as an important subset of preserves within the National Park System. Rothman argues that the presidential prerogative contained in the Antiquities Act was the most powerful, and therefore the most important, tool for conservation that Congress ever gave to the executive branch.

Rothman, Hal K. *Devil's Bargains. Tourism in the Twentieth-Century American West*. Lawrence: University of Kansas Press, 1998.

Focuses on the cultural and physical dislocation inherent to communities inspired or compelled by economic interest to conform to outsiders' expectations and demands, expectations and demands placed not only on a community's aesthetic but also on local inhabitants' behavior. Most relevant to the modern western tourism industry, particularly ski resorts.

Rowe, Royle C. *Geology of Our Western National Parks and Monument*. Portland, Oregon: Binfords & Mort, 1974.

Brief section on Lassen Volcanic National Park provides a description of 19th century reports of eruption (Fremont Expedition; Mr. Bumpass, et al). Introduction also places Lassen within a regional geographic context.

Runte, Alfred. *Public Lands, Public Heritage. The National Forest Idea*. Roberts Rinehart Publishers, in cooperation with The Buffalo Bill Historical Center, 1991.

Provides valuable background text and national context for the creation and management of the Lassen National Forest Reserve, an event central to the economic, social, and land-use history of the park.

_____. *National Parks: The American Experience*. Lincoln: University of Nebraska Press, 1987. [Rev. 2nd ed.]

Seminal study on the political, social, and cultural context on the creation and evolution of the National Park system and the National Park Service. Of most relevance to Lassen is Runte's discussion of "monumentalism" as a focus in early park designation.

Sanders, Mazie Phelps. "Mt. Lassen Came to Life." *The Covered Wagon*. Shasta Historical Society, 1975.

The author's father assisted Benjamin F. Loomis in taking his famous photos of the eruptions of Mount Lassen.

Sapir, E. and Spier, Leslie. "Notes on the Culture of the Yana," *Anthropological Records*, University of California, Vol.3, No.3, 1943.

This report provides a detailed description on the culture of the Yana. Included are descriptions of settlement and subsistence, artifacts, geography, basketry, rites of passage events, and kinship.

Saygrover, Edna. "A Trip to Mount Lassen in 1903." In *The Covered Wagon*. Shasta Historical Society, 1962.

Late summer recreational trip to Lassen, primarily the Bumpas Hell area.

Scott, Franklin D. "Peter Lassen: Danish Pioneer of California, 1800-1859." In *Makers of an American Immigrant Legacy: Essays in Honor of Kenneth O. Bjork*. Edited by Odd S. Lovoll. Northfield: Norwegian-American Historical Association, 1980.

This is a good account of Lassen's role as a prominent pioneer in northern California. Based on contemporary writings about Lassen (for he did not leave any writings about himself), it discusses his emigration west and activities in the late 1840s including his location of Lassen's Trail, his various schemes for encouraging settlement including his involvement in the founding of the Territory of Natauqua, his troubles with Indians, and the mysterious circumstances of his death.

Seffens, Charles W. *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*. Manuscript collection.

Seffens describes Susanville, in 1925, as "a flourishing little city of several thousand people. It has a number of paved streets and many very good stores and fine residences. Its main industry is lumbering and there are two very large mills located in the outskirts of town." Westwood is described as "another big lumbering town, where the mills of the Red River Lumber Company are located. The . . . Co. owns the entire town of Westwood and much of the surrounding country, all of which is heavily timbered, mostly pine. They claim to have 100 years run, 50 of same on virgin timber and 50 more on second growth. The output of their mill is said to be 750,000 ft of lumber per day of 24 hours.

Schulz, Paul E. *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 Museum Association, 1949.

This study, first published in 1949 and reprinted in 1991, identifies both United States Board on Geographic Names (USGB) official names and also those in common usage. Annotations provide important information on early settlers, for whom landmarks were named, and also information on historic land use. Schulz's work is largely based on oral histories and historic maps.

_____. *Indians of Lassen Volcanic National Park and Vicinity*. Mineral, California: Loomis Museum Association, 1988 (second edition).

Book describes the cultures of the Yana, Yahi, Atsugewi, Maidu, and Wintu. Emphasis is placed on the geographic localities inside and immediately outside of the park as well as traditional plants and animals

gathered and/or hunted in the region. Chapters include hunting, fishing, gathering and preparation of plants, settlement, transportation, artifacts, rites of passage, music and art, and earthquake beliefs.

- _____. *Geology of Lassen's Landscape*. Lassen Volcanic National Park, 1959.
Most valuable for the compilation of accounts by prominent geologists, including Williams, Day, and Allen (Appendix D); a comprehensive bibliography of selected geological references (Appendix E); and Glossary (Appendix F).
- Shankland, Robert. *Steve Mather of the National Parks*. Alfred A. Knopf, New York, 1954.
An appreciative biography of the founding director of the National Park Service.
- Show, S. B. and W.B. Greeley. *Timber Growing and Logging Practice in the California Pine Region. Measures Necessary to keep Forest Land Productive and to Produce Full Timber Crops*. USDA Department Bulletin No. 1402. Washington, Government Printing Office, 1926.
Show and Greeley define California pine region as including the east and west slopes of the Sierra Nevada Mountains, the plateaus of northeast California, and the valleys and seaward slopes of the Coast Ranges, excepting the coast redwood forests. Snow and Greeley report that "within this region western yellow pine is the most widely distributed and characteristic tree; sugar pine, Douglas fir, white fir, and incense cedar are of great commercial importance. The yellow pine, Douglas fir, and white and red firs commonly occur in pure stands." At the time of publication (1926), disregarding noncommercial forest areas, the region contained about 13,616,000 acres of forest land, of which Snow and Greeley described 3,247,000 acres as privately owned virgin forest, and 1,470,000 as privately owned cut-over land. The cut rate ca. 1925 averaged approx. 51,000 acres yearly, nearly 80 per cent on private land.
- Shuler, Carmen. "George Fredrick and Elizabeth Shuler and early days in Eastern Shasta County." In *The Covered Wagon*. Shasta Historical Society, 1962.
This German immigrant family raised cattle and conducted a freight business. Cattle drives were made from Cottonwood northeastward into Nevada through the Mount Lassen area.
- Sifford, Roy D. *Sixty Years of Siffords at Drakesbad*. Susanville, California: Lahontan Images, 1994.
First developed in 1900 as a summer home and later developed as a resort, Drakesbad is one of few privately-developed historic properties extant within the boundaries of Lassen Volcanic National Park. This history, based upon a series of transcribed interviews with Lassen Chief Ranger Lester D. Bodine, provides information on local land use (logging, mining; and ranching), the tourist trade, vernacular architecture, and development and modification of the Drakesbad complex.
- Signor, John R. *Rails in the Shadow of Mt. Shasta*. Burbank: Howell-North Books, 1982.
Overview history of the Southern Pacific railroad in northern California and southern Oregon., with emphasis on the Shasta Division, Tehema, Shasta, and Siskiyou counties.
- Silcox, F.A. "How the Fires were Fought." *American Forestry: The Magazine of the American Forestry Association* 16 (November 1910).
Assistant District 1 (now Region 1 of the U.S. Forest Service) Forester, F.A. Silcox, discusses the 1910 fires in the northern Rockies and the strategies and tactics used to fight these fires. Silcox's position is that with adequate personnel and equipment, wildfires can be controlled—what he calls "full controll." He identifies possible causes of the massive loss of human life and timber in 1910: drought, lack of early detection, and multiple fires, among others. This article is a good primer on the roots of Forest Service fire policy.
- Smith, Dottie. "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.
Solid history of the northern California timber industry, as it developed in the mid to late nineteenth century. Emphasis on forest characteristics and the built environment.
- Smith, Duane A. *Mining America: The Industry and the Environment, 1800-1980*. Lawrence: University Press of Kansas, 1987.
Discusses the conflict over hydraulic mining in California in the late nineteenth century.

Soulliere, Laura. *Historic Roads in the National Park System*. USDI NPS Denver Service Center (DSC) Special History Study, 1995 (manuscript available through DSC Technical Information Center, Denver, Colorado).

Soulliere defines roads as “the thread” holding together all park facilities and – when designed properly – reinforcing the prevalent design theme. Expanding upon themes developed in *Presenting Nature*, Soulliere provides information on the development of park roads; teamwork/cooperative efforts (particularly with Bureau of Public Roads); the development of road standards; and changes to the road system in the Mission 66 and modern eras. This information is directly relevant to Lassen Volcanic National Park, where construction of a through-park roadway defined the master plan.

Spaulding, F.N. “Death of Peter Lassen.” *Hutchings’ California Magazine*, Vol. 3 (1858-1859), pp. 566-567.

A resident of Honey Lake Valley recounts how Peter Lassen and a Mr. Clapper were killed by Indians. The writer was not an eyewitness, but learned the story from a Mr. Wyatt who was with Lassen and Clapper and escaped.

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.

1858 survey of the American Valley, south of 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.

Stauffer, Esther S. “Romance by Mail: The Story of the Phillips Mill.” In *The Covered Wagon*. Shasta Historical Society, 1975.

Stephens, Kent. *Matches, Flumes, and Rails: The Diamond Match Co. in the High Sierra*. Corona Del Mar, California: Trans-Anglo Books, MCMLXXVII.

Provides good information on the consolidation of private land holdings by timber conglomerates.

Stewart, George R. *The California Trail*. Lincoln and London: University of Nebraska Press, 1962.

Standard secondary source that charts the main routes of the California Trail, its many detours (including the Lassen and Nobles cut-offs), and life along the route, by season. The book has been described as “more than a history of the trail. This book tells how to travel it, what it felt like, what was feared and hoped for.”

_____. *The California Trail: An Epic with Many Heroes*. Lincoln: University of Nebraska Press, 1962.

Detailed description of the development of the California Trail and its alternative routes, including the Lassen and Nobles trails.

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

Overview history of Lassen Volcanic National Park and of the Lassen region, revised, retitled and updated for sale to park visitors. Originally published in 1973 as *These Happy Hunting Grounds: A History of the Lassen Region*.

_____. “Supan’s Sulphur Works.” *The Covered Wagon*. Redding: Shasta Historical Society, 1973.

Brief history of settlement, development, and NPS acquisition of Supan’s Sulphur Works, near the southwest entrance to Lassen Volcanic National Park.

Sturtevant, William, editor. *California: Handbook of North American Indians*, vol. 8, Washington, D.C.: Smithsonian Institution Press, 1978.

The Handbook of North American Indians is a 20 volume encyclopedia of North American Indians to be published over a period of extended time. The “Handbook” will summarize knowledge of the history and the cultures of all North American Indians and Eskimos, from the earliest prehistoric times to the present. Each volume in this set is independent of the other volumes and contains separate chapters on all the tribes within a geographic area, and includes illustrations, bibliographies, and an index. Most of the contributing authors are scholars, anthropologist and historians. For the Lassen Region, relevant articles in volume 8 include Albert B. Elasser’s discussion of Regional Prehistoric Cultures, including descriptions of “Yana

Archaeology” in the foothills of the southern Cascades; Jerald Johnson’s description of Yana culture and language, including discussion of the Yana dialect; Francis A. Riddell’s chapter on the Konkow and Maidu; and William Wallace’s chapter on “Post Pleistocene Archaeology, 9000 to 2000 BC.”

Swarzlow, Ruby Johnson. “The Noble Trail.” In *The Covered Wagon*. Shasta Historical Society, 1957. Includes some contemporary accounts from newspapers.

_____. *Peter Lassen*. Lassen Volcanic National Park: Loomis Museum Association, 1995. Published in cooperation with the National Park Service, this short study is largely based upon Swartzlow’s earlier publications “Peter Lassen: Northern California’s Trail Blazer,” *California Historical Quarterly*, 1940, and *Lassen: His Life and Legacy*, Loomis Museum Association, 1964. All three accounts are based upon readily available published manuscripts and periodicals yet together provide a succinct description of the trail corridor (complete with maps), of Lassen’s career, and of the importance of the trail to regional development.

_____. “Peter Lassen, Northern California’s Trail-Blazer.” *California Historical Society Quarterly*. Vol. 18 (December 1939): 290-314. Contains a good description of Lassen’s Trail as well as Lassen’s activities around his ranch and the mysterious circumstances of his murder.

Tehama County Exposition Commission and Board of Supervisors. *Tehama: The Banner County*, 1915. Booster literature describing Tehama county’s potential as ranching, farming, and logging country. Interestingly, and in contrast to contemporaneous literature from Shasta County, there is no mention of Mount Lassen. The commission writes only that “the county is sheltered by Mount Shasta and adjacent mountains, watered and drained by the Sacramento River, and warmed by a temperature equally as kind to plant life as that of the Los Angeles country. Population is 15,000 and assessed valuation is 15,000,000. Tehama County invites you to participate in a boom that is being conducted by a combination of Sunshine, Soil, and Water.”

Teisch, Jessica. “The Drowning of Big Meadows: Nature’s Managers in Progressive-Era California.” *Environmental History*, Vol. 4, No. 1 (January 1999), pp. 32-51. Compares the politics of the Almanor Dam and Reservoir to Hetch Hetchy and Owens Valley. In 1914, the Great Western Power Company dammed the Feather River and flooded Big Meadows Valley in Plumas County to create Lake Almanor, the largest privately built hydroelectric reservoir of the period.

Thatcher, Thomas, interviewed by anonymous. *Early Lumber Industry in Shasta County: Shingletown Area*. Association for Northern California Records and Research and California State University, Chico Oral History Program. Northeastern California Project, 1975. Interview with Thomas Thatcher, an early settler of Shingletown, by an unknown interviewer. Mr. Thatcher was born in 1888 near Shingletown and worked in several of the mills there, including Ritz Mill. He discusses this mill as well as other mills in the vicinity, early transportation, and the origin of Shingletown.

Thompson, Dick. *Volcano Cowboys: The Rocky Evolution of a Dangerous Science*. New York: St. Martin’s Press, 2000. Mostly recent history of the development of volcanology, with emphasis on the Mount St. Helens eruptions.

The Volcano Letter. 1925-1930. Weekly news leaflet of the Hawaiian Volcano Research Association. Includes occasional reports by R. H. Finch on studies conducted at the Lassen Volcano Observatory.

Treganza, A. *An Archaeological Survey of Aboriginal and Early Historic Sites of Lassen Volcanic National Park, California*. Prepared for Lassen Volcanic National Park, 1962. Report on the earliest archaeological survey conducted in the park. Survey coverage focused mainly on springs, lakes, and drainages. The report provides results of this survey, as well as an ethnographic background for the park and Salina LaMarr’s (Atsugewi elder) account of the park.

Uhart, Jean. "Basque Sheepman of the Plumas Range, *Plumas Memories*. Quincy: The Plumas County Historical Society, June 1984.

Detailed discussion of the historical evolution of the Basque sheep industry and the day-to-day life of a twentieth century shepherd on the Plumas Range, south of Lassen Volcanic National Park.

United States Census Bureau

The National Archives and Records Administration maintains a complete microfilm set of manuscript census, 1850 to 1930, excluding 1890.¹ Census were reviewed for Plumas; Tehama; Shasta; and Lassen counties. Enumeration Districts within and adjacent to what is now Lassen Volcanic National Park have included: Millville (Shasta County, 1860); Mineral (Plumas County, 1860); Lassen (Tehama County, 1860); Susanville (Lassen County 1860); Lassen National Forest Reserve (Lassen, Plumas, and Tehama counties, 1910); Shingletown and Millville (Shasta County, 1910). A review of these districts showed a heavy concentration on logging- (peaking ca. 1920) and ranching-related economic activity. Women remained a distinct minority of the population until the 1920s. Separate Indian census were taken for the entire Pit River region until 1900, when Indian communities were incorporated within the county census.

U[nited] S[tates], Congress, House. *Lassen Volcanic National Park*. 63rd Cong., 2d sess., Report 1021, 1914.

Debates associated with first bill put forth to establish a National Park in the Lassen region.

U[nited] S[tates], 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.

Includes discussion of Nobles Pass as a possible transcontinental route (leading in part to federal construction of the Honey Lake Wagon Road).

United States Department of the Interior, National Park Service. *Comprehensive Management and Use Plan, Final Environmental Impact Statement California National Historic Trail Pony Express Trail*, April 2000.

Includes general description of emigrant trail physical characteristics and specifics on the route of the Pony Express Trail and its incorporation of existing trail corridors.

United States Department of the Interior, National Park Service. *Management and Use Plan Update Final Environmental Impact Statement Oregon National Historic Trail, Mormon Pioneer National Historic Trail*, April 2000.

Includes general description of emigrant trail physical characteristics and specifics on the route of the Oregon, California, and Mormon trails.

Unruh, John. *The Plains Across. The Overland Emigrants and the Trans-Mississippi West, 1840-1860*. Urbana Chicago London: University of Illinois Press, 1979.

This seminal work on overland migration contains few references to the project area specifically yet provides essential background information on changing public perception and attitudes toward the semi-arid West, the Mormon migration, and the day-to-day experience of migrants, including a critical analysis of the degree of contact and of conflict with Native Americans. Includes an important discussion of the different phases of migration, from those who intended to settle the best land, to Mormons in search of marginal unsettled land, to the '49ers who planned primarily to make their fortune and return east (thus creating a surge of eastward travel).

Vaughan, Trudy. "Flour Mills of Shasta County." In *The Covered Wagon*. Shasta Historical Society, 1984.

Survey of flour mills with emphasis on Millville and Fall River Valley.

¹ Most of the federal 1890 population schedules, including all those for California, were badly damaged by fire in the United States Commerce Department Building in January 1921.

Vernon, James W. "Sulfur." *Mineral Commodities of California*. Bulletin 156, San Francisco: California Division of Mines, 1950.

Good general history of the California Sulfur industry, with emphasis on twentieth-century development.

Vileisis, Ann. *Discovering the Unknown Landscape: A History of America's Wetlands*. Washington: Island Press, 1997.

Useful description of California's Central Valley before the gold rush era.

Vogel-Jorgensen, T. *A Study of Peter Lassen*.

This 85-page manuscript provides a narrative account on Peter Lassen's life and his contribution to Northern California history. It includes chapters on his childhood and youth in Denmark and travels from the Atlantic to Pacific, and California. There is also a chapter entitled Pioneer in which the author describes Lassen's involvement with Sutter's Fort, Lassen's Ranch or Benton City, and his travels in Northern California.

Wagoner, Rosemary S. "The Wagoner Family, Pioneers of Shasta County." In *The Covered Wagon*. Shasta Historical Society, 1962.

A pioneer family that raised cattle in the South Cow Creek Valley near Millville in the 1860s and 1870s.

Walsh, Victor A. "The Emigrant Trail through Lassen Volcanic National Park." *Motorland*. (January/February 1989): 36-37, 54.

Popular account oriented to roadside features.

Waterman, T.T. *The Yana Indians*. University of California Publications in American Archaeology and Ethnology, Vol.13, No.2, 1918.

This report provides a detailed description on the culture of the Yana. Included are descriptions of settlement and subsistence, artifacts, geography, basketry, rites of passage, and kinship.

Weigart, Elias G. "The Last Grizzly of Shasta County." *The Covered Wagon 1976 Bicentennial Edition*. Redding: Shasta County Historical Society, 1976.

Weigart, a former lumberman, claims to have shot the last grizzly in Shasta County near Lassen Peak in this unapologetic reminiscence.

Weigand, Glorianne. *Dusty Trails*. Bend, Oregon: Maverick Publications, Inc. 1994.

Ms. Weigand is a fourth-generation rancher on the 101 Ranch at Adin, Lassen County, California. A compilation of essays written for the *Nevada Rancher Monthly*, *Dusty Trails* provides anecdotal information on early 20th century ranching in the vicinity of Lassen Volcanic National Park, including the Big Valley, Hat Creek, and Mineral areas. Lassen-county families portrayed include Studley, Babcock, Joiner, Stevenson, McGarva, Kramer, Crum, Bennett, Shaw, Dixon, Kresge, Bognuda, Poytress, McCoy, Stone, Thompson, Shepherd, Wilcox, and Swain. Weigand describes regional brands; cattle drives; seasonal land use; range use in the region surrounding LAVO; and the impact of volcanic eruption on area ranches, particularly those in the Hat Creek drainage.

Wells, H.L. "The Sage-Brush Rebellion." *The Overland Monthly*. Vol. 13—Second Series, (January-June 1889): 253-259.

This article describes the settlement of Honey Lake Valley beginning in 1851, the formation of the short-lived territory of "Natauqua" in 1856-57, and the events surrounding the "Sage Brush Rebellion" of 1862, when residents of Honey Lake Valley sought to become part of the new territory of Nevada but were forced to settle for their own county of Lassen, separate from Plumas County, instead.

Wells, Merle W. "History of the City of Rocks," with four Appendices. Report prepared for David and Jennifer Chance and Associates, Moscow, Idaho, 1990. On file at the Pacific Northwest Region of the National Park Service, Seattle, Washington.

Appendices are 1) City of Rocks and Granite Pass, 2) Diary References to City of Rocks, 3) Almo Massacre Documentation, and 4) Annotated Bibliography.

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

Includes lengthy discussion of the Tehama County sheep industry, 1880s-1920s.

- Wheeler-Vogelin, E.W. "Culture Element Distributions: XX Northeast California," *Anthropological Records*, University of California, Vol.7 No.2, 1942, pp. 47-251.
This publication describes the culture of Indians of Northeast California, primarily the Atsugewi, Achomawi, and Modoc. It includes descriptions of artifacts, clothing, subsistence (plants and animals), settlement types, games, geography, kinship, and rites of passage.
- White, Richard. *It's Your Misfortune and None of My Own: A History of the American West* Norman: University of Oklahoma Press, 1991.
The most recent survey of the history of the American West, emphasizing region, environment, and social conflict.
- Wilcox, Emma E. "Mt. Lassen Eruption and Hat Creek Flood." *The Covered Wagon*. Redding: Shasta Historical Society, 1951.
Eyewitness account.
- Wilkes, Charles. *Narrative of the United States Exploring Expedition*. Vol. 5. Philadelphia: Lea & Blanchard, 1845.
Chapter V contains description of California focusing on San Francisco Bay and environs but containing general information about the interior including the Feather River country.
- Williams, Howel. *Geology of the Lassen Volcanic National Park of California*, University of California Department of Geological Sciences Bulletin, Vol. 21, No. 8, 1932.
Technical report focused on two "striking" (and very specific) problems: 1) the origin and mode of emplacement of the Chaos Craigs; 2) the origin of the smooth cliffs on the south slope of Lassen Peak. Too technical to be of particular value to the Historic Resource Study.
- Williams, Howel, and Alexander R. McBirney. *Volcanology*. San Francisco: Freeman, Cooper & Co., 1979.
First chapter provides overview of historical development of volcanology.
- Williams, Howel. "Geology of the Lassen Volcanic National Park, California," *University of California Publications in Geological Sciences*, Vol. 21 (1931-1932).
Provides an early history of geologic study of the Lassen Peak region.
- Witherow, Gertrude, interviewed by Coad, A.L. *Recollections of Life in Utah and in Coram, Kennett, and Cottonwood, Shasta County, including the eruption of Mt. Lassen*. Association for Northern California Records and Research and California State University, Chico Oral History Program, Northeastern California Project, 1974.
Interview with Gertrude Witherow, early settler in Shasta County, by Ardythe L. Coad. It is mostly concerned with Ms. Witherow's life in Utah and small towns in Shasta County. Witherow mentions that Sam Witherow and Alex Thatcher herded sheep in what is now referred to as the Devastated Area in LAVO.
- Wyatt, David. *Five Fires: Race, Catastrophe, and the Shaping of California*. Reading, Massachusetts: Addison-Wesley Publishing Company, Inc., 1997.
Recent history of Californis with focus on the extent to which catastrophes - ethnic clashes/riots, ecological conquests, fires, and earthquakes have shaped and continue to shape the state's history.
- Yard, Robert Sterling. *The Book of the National Parks*. Charles Scribner's Sons, New York, 1920.
Designed to publicize the national parks to a popular audience, the book contains descriptions of the natural and cultural features and recreational opportunities of each national park. It reflects Mather's vision of the development of national parks to serve as automobile-oriented national playgrounds.
- Yeager, Dorr. *National Parks in California*. Menlo Park California: Lane Book Company, 1964.
Chapter on Lassen Volcanic National Park provides information on local history, Indians, natural history, and the story of the volcano as well as a description of the main visitor attractions.

Young, Otis. *Western Mining*. Norman: University of Oklahoma Press, 1970.

Subtitled “an informal account of prospecting, placering, lode mining, and milling on the American Frontier, from Spanish Times to 1893,” this standard work provides detailed descriptions of technological processes, their evolution, and the impact of their use on the natural landscape.

Archives

California State Library and Archives, Sacramento.

California State University, Chico, Meriam Library.

Lassen County Historical Museum, Susanville, California.

General Land Office Records, Bureau of Land Management, Sacramento, California.

Huntington Library, San Marino, California.

Meriam Library Special Collections, California State University, Chico, California

Pacific Sierra Region National Archives and Records Administration, San Bruno, California.

National Park Service, Denver Service Center, Technical Information Center, Denver, Colorado.

National Park Service, Lassen Volcanic National Park, Central Files, Mineral, California.

National Park Service, Western Archeological and Conservation Center, Tucson, Arizona.

Plumas County Historical Society, Quincy

Red Bluff Public Library, Red Bluff

Shasta County Historical Society, Redding

Tehama County Public Library, Red Bluff, California.

University of California, Berkeley, Bancroft Library.

University of California, Berkeley, Geology Library

Oral History Interviews

Hanna, Jud. Interviewed by Ann Emmons, Historical Research Associates, Inc., February 2002, Mill Creek, California.

Koeberer, John. Interviewed by Ann Emmons, Historical Research Associates, Inc., February 2002, Red Bluff, California.

Pitt, Pam Koeberer. Interviewed by Ann Emmons, Historical Research Associates, Inc., February 2002, Red Bluff, California.

Janc, John. Interviewed by Ann Emmons, Historical Research Associates, Inc., February 2002, Red Bluff, California.