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The Little Butte Creek Watershed:

An Overview  
of its  
Environmental History

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(Prepared for the Little Butte Creek Watershed Assessment Analysis report,  
Bureau of Land Management and Rogue River National Forest)

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REFERENCE CONDITIONS:

LITTLE BUTTE CREEK WATERSHED

HISTORIC HUMAN PROCESSES AND ACTIVITIES INFLUENCING THE WATERSHED

**Introduction**

People have been using the Little Butte Creek for several thousand years. During this time, although climate and other natural processes have dominated the watershed's environment, human activities have significantly influenced the conditions of the local landscape.

For purposes of the following discussion, the Little Butte Creek watershed is divided into three major sub-areas: (a) the lower valley, (b) the upper valley/canyon section, and (c) the high plateau. The **lower valley section**, the westernmost portion of the Little Butte Creek watershed, extends from the mouth of the creek (located on the opposite side of the Rogue River from Upper Table Rock) east to about the confluence of the North Fork and South Fork; the section also includes the lower Antelope Creek drainage, below Bybee Peak. The **upper valley/canyon section** includes extensive valley bottom lands near the community of Lake Creek, but is dominated by the "twin" steep-walled canyons of the North Fork and the South Fork of Little Butte Creek (which are separated from each other by the Heppsie Mountain ridge). This section also includes high-gradient tributary drainages that have been eroded into the old volcanic deposits of the Western Cascades (for example: Lake Creek, Lost Creek, Deer Creek, Soda Creek, Dead Indian Creek, Wasson Canyon), as well as upper Antelope Creek. The **high plateau section** forms the headwaters drainage of the Little Butte Creek watershed, with the North Fork and the South Fork originating at Fish Lake and the moist meadows of the "Dead Indian Plateau" respectively. Although the high plateau includes the steep slopes of Mt. McLoughlin and Brown Mountain, most of this section has fairly gentle, "rolling" relief, consisting of geologically recent andesite and basalt flows of the High Cascades.

The generally "level" terrain and mild climate of the lower valley, which includes the present community of Eagle Point and the bulk of the watershed's privately owned lands, have made this section quite hospitable to permanent human habitation; because of this, human modification of the landscape has been particularly intense in the lower valley. Outside of the Lake Creek vicinity, the upper valley/canyon section's deeply-incised drainages have confined most habitation there to the narrow floors of the two major canyons; much of the rest of the canyon section consists of federal land (Bureau of Land Management and National Forest). Because of the high plateau's generally cold winters, deep snowpack, dense forest, and other factors, most historic human uses of this area have been seasonal in nature; federal land (largely National Forest) accounts for most of the high plateau section.

The following discussion, while acknowledging and briefly summarizing the history of the lower valley, concentrates on relevant human activities that occurred in the upper valley/canyon and high plateau sections of the Little Butte Creek watershed.

### **Prehistory and Native Groups (ca. 10,000 years before present to A.D. 1865)**

The first human beings in southwestern Oregon--people whom archaeologists call the "Paleo-Indians"--probably arrived about 11,000 years ago, at the close of the Ice Age. The Paleo-Indians very likely would have hunted mammoth, giant bison, and other now-extinct mammals within the Little Butte Creek watershed and elsewhere in the wider region. (Although no sites or artifacts clearly linked to these earliest human inhabitants have been documented for the watershed, a few Paleo-Indian artifacts have been found elsewhere in the upper Rogue River drainage.)

As floral and faunal communities characteristic of the Ice Age in southwestern Oregon disappeared, human inhabitants began nearly ten-thousand years of adaptation to the changing opportunities offered by the land. Evidence of these people is contained in the Little Butte Creek watershed's archaeological record. Based on state archaeological site records, it is likely that most of the watershed's larger and more intensively occupied prehistoric settlements were concentrated in the lower valley section, particularly on flood-free stream terraces stretching from near the Rogue River to about Brownsboro, with some such sites also evidently located in the upper valley (on knolls and other terrain well above the valley floor). Some of these archaeological sites likely include winter villages and major seasonal base camps (i.e., situated at important fisheries, camas meadows, acorn-gathering locales). (Unfortunately, very little professional archaeological survey or excavation has occurred in the lower valley; almost all sites are located on private land and have been substantially impacted by twentieth-century agricultural and residential development.) Upstream, in the canyons of the watershed, archaeological sites tend to be relatively small (probably reflecting seasonal base-camp and single-task use by dispersed family groups) and are typically located close to the stream channels of the North and South Forks. On the high plateau, archaeological sites tend (with some exceptions) to be quite small, shallow, and contain very low-density deposits--the result of light, periodic (even single-episode) use by small groups of very mobile hunter-gatherers.

The "Annual Round": During the many centuries of human prehistory, it is possible that the bulk of the Little Butte Creek watershed may have formed the core subsistence-gathering territory for only a few affiliated extended family bands at any one time. At the time that Euro-American settlers arrived, the Little Butte Creek watershed was inhabited by bands of Latagwa (or Upland Takelma) people. Portions of the high plateau section were probably seasonally visited (largely for hunting game) by groups of Klamath people, who lived along Upper Klamath Lake--well to the east of the watershed. The total population of people living in and using the watershed over the course of a year's time may well have been a few hundred at most. These people followed an "annual round" of fishing, hunting, and gathering--a subsistence pattern that typically brought them from their low-elevation winter villages to the adjacent foothills by spring. Generally speaking, as edible plants and game animals became increasingly abundant at higher elevations during the summer and early fall, the

people "followed the harvest" into the watershed's uplands, returning to the winter villages by mid-autumn. (Winthrop 1995, LaLande 1980)

Fishing: Little or no archaeological evidence of fishing is known for the watershed. However, ethnographic and historic accounts confirm that anadromous fish were a major component of the local native diet. In addition to chinook and coho salmon taken from major fishery sites along the Rogue (upstream and downstream of the mouth of Little Butte Creek), sizable numbers of fish would also have been taken from the waters of Little Butte Creek drainage itself. Methods would have included dipnetting and spearing, as well as hand-catching exhausted (and even dead) spawners from slack water. Although undocumented for the upper Rogue vicinity, weirs and fish poisons (e.g. soaproot) may also have been employed, particularly in the lower valley and canyon sections of the watershed. Freshwater mussels, crawfish, and lamprey could have been exploited along the lower valley reaches as well. Overall, native take of salmon (and steelhead) probably had little effect on fish populations or their habitat.

Hunting: Deer and elk were the major game species of the watershed, although a variety of other animals were hunted as well. Among them were probably pronghorn antelope in the lower valley (their presence in the Rogue River Valley was documented by an 1841 exploration expedition) and--in the uppermost South Fork canyon and rugged portions of the high plateau--bighorn sheep. (Note: early historic accounts testify to the presence of bighorn in the High Cascades less than forty miles to the south; in addition, blood residue studies of artifacts from archaeological sites within and near the watershed point to hunting of bighorn). Hunting methods, aside from solitary hunting or snaring, included communal endeavors in the canyons that employed dogs and fire to help drive large numbers of deer into brush enclosures. Group-organized jackrabbit drives may have been occasional events in the lower valley. Such hunting pressure may have periodically resulted in substantially (if short-term) lowered game populations, but the native's regular efforts at habitat enhancement (through the long-term use of fire to expand and maintain wildlife forage) would have been a positive force.

Gathering: Acorns (Oregon white oak and especially California black oak) were a staple wildland harvest from the lower valley floor and adjacent foothills. Poorly drained soils in the alluvial bottomlands and low-elevation benches supported blue camas; along with acorns, these bulbs were the key edible plant resource of the Latgawa. Brodiae and other bulbs were gathered from drier hillslopes. In the upper valley/canyon areas, California black oak, yampa, sugar pine, hazel, and chinquapin produced abundant quantities of food. Regular burning in the canyons would have enhanced the growth and productivity of these species. Similarly, on the high plateau, anthropogenic fire probably served to encourage and maintain the growth of serviceberry trees and huckleberry patches at favored locales. Camas was also available from the high, moist meadows (e.g., Big Elk Prairie, Owens Prairie, Dunlop Meadows).

In addition to edible/useful plants, certain mineral resources of the watershed were gathered by native people. Cryptocrystalline silicate rocks (i.e., "toolstone" or "glassy" rocks such as jasper and agate, useful for making into chipped stone tools) occur as nodules and veins in the Western Cascade volcanics. Although toolstone was apparently gathered from primary deposits of such rock near the southwestern-most corner of the high plateau (e.g., headwaters of Dead Indian Creek), people likely obtained most of their local

supply from secondary deposits--the extensive, alluvial-terrace cobble deposits of the lower valley. Fine-grained basalt (for large chopping tools) and coarser basalt/andesite were plentiful as stream cobbles (for mortars and pestles) along nearly the full length of Little Butte Creek (LaLande 1980).

Transportation: Native people in the Rogue River area did not obtain horses until after 1830; obviously, all travel was by foot. Travel through the watershed doubtless included many traditional trails. Only one is documented: the 1854 General Land Office survey of the 1E/2E range line dividing the adjacent Townships 37 South mentions "an Indian Trail" paralleling the south bank of Little Butte Creek; no such trail was noted for the north side of the stream. This route likely accessed the canyons and high plateau of the watershed.

Post-Contact Epilogue: During the period between 1827 (when Euro-Americans first passed through southwestern Oregon) and 1855, the Latgawa adapted to many changes; metal trade goods, the horse, and devastating new diseases were major among these. Permanent Euro-American settlement of the watershed began in 1852-53, shortly after the discovery of gold near Jacksonville. Settlers were farmers/ranchers who had little appreciation for the native way of life. Some of them participated enthusiastically in the "Indian War of 1855-56." The war began in October 1855 with the settlers' attack on a Latgawa village at the mouth of Little Butte Creek, inhabited by Qua-chi's band. Qua-chi (known as "Jake" to white settlers) and his band fled to the canyons upstream; the settlers' militia forces again attacked them (probably somewhere in the vicinity of Wasson Canyon), on Christmas Day 1855. Survivors of the "Little Butte Creek band" were taken to Fort Lane and eventually forcibly relocated to a reservation in the northern Oregon Coast Range.

Immediately following 1856, Klamath Indians from east of the High Cascades apparently began to expand their seasonal territory westward into areas formerly used by the Latgawa. Jacksonville newspaper accounts from the 1858-62 period confirm that Little Butte Creek ranchers and other Rogue River valley settlers became seriously concerned about the increasing numbers of Klamaths in the area each summer. Local political pressure contributed to establishment of the Klamath Indian Reservation (located well to the east of the Little Butte Creek watershed) in 1863. With that event, Klamath presence within the watershed became much less frequent and far more controlled (largely restricted to travel each summer along what was historically referred to as the "Dead Indian Road" to trade at Ashland, Phoneix, and Jacksonville). Traditional native use of the watershed was effectively ended.

Landscape Appearance prior to Euro-American Settlement: Over the course of thousands of years, native inhabitants of the Little Butte Creek watershed regularly used fire on the landscape for a wide variety of purposes. Combined with the effects of generally short-interval natural fire, anthropogenic fire would have contributed greatly to the vegetation patterns that characterized lower and medium elevations. In general, much of the lower valley would have been dominated by grassland, oak savanna, and open oak/pine woodland. As documented by impressionistic early accounts of travel through the adjacent Rogue River Valley during spring (e.g., Applegate 1922), open groves of "majestic" oak and scattered ponderosa pine towered above lush grass that grew "belly high to a horse." This kind of vegetation would have been far more extensive than it is at present. The notes taken during the 1854 General Land

Office survey of Township 36 South, Range 2 East, W.M. (Ives and Hyde) document the foothills of the Lake Creek area as containing "prairies" and "scattered pine and oak," and "oak openings."

In the upper valley/canyon section (probably prime black-oak-acorn-gathering territory), south-aspect slopes--such as those of the South Fork Canyon north of present Latgawa Camp--would have continued the extent of oak/pine woodland to well over 3,500 feet in elevation. Many mixed-conifer stands of the canyon and high plateau sections likely were comparatively open, with a higher proportion mature ponderosa and sugar pine than at present. Elsewhere on the high plateau (where infrequent, stand-replacing natural fires may have played a dominant role overall), repeated anthropogenic burning of selected locales would have created huckleberry patches and helped maintain an extensive system of meadows at the headwaters of streams (cf. Lalande 1995).

Riparian vegetation along major streamcourses of the lower valley and along lower North and South Forks probably was dominated by tall bigleaf maple, with thickets of lower-growing alder and willow. Back from elevated bank edges, large black oak also would have contributed to shading of streamcourses. The question of how important conifers (especially ponderosa pine) were to the make-up of these low-elevation riparian communities is open to debate. However, it is highly likely that open "galleries" of mature pine grew along many sections of lower/medium-elevation stream courses. This is supported by ca. 1875-1885 lithographic panoramas (which in turn were based on tracings of photographs) that show tall conifers growing abundantly along streamcourses of the main Rogue River valley. In addition, the 1854 G.L.O. survey notes for the range line between T36S/R1E and T36S/R2E document that large "yellow [ponderosa] pines" grew very close to the streambank of Little Butte Creek at the confluence of the North and South forks; the riparian vegetation along this stretch was described as "Timber, pine, oak, ash, balm [poplar] and alder, haw[thorn] and maple; undergrowth, hawthorn, plum, linebark [i.e., ninebark], briars and rushes."

#### Early Euro-American Use and Settlement (ca. 1827-1870)

Trapping: The first Euro-Americans to explore the interior of southwestern Oregon arrived in early 1827, when fur trappers of the Hudson's Bay Company (H.B.C.) traveled through the Rogue River Valley. Led by Chief Trader Peter Skene Ogden, these men ascended the left (south/east) bank of the Rogue River well past the mouth of Little Butte Creek. A small detachment trapped the waters of Little Butte Creek for a few days' time in late February/early March, possibly reaching as far east as the North Fork/South Fork canyons (LaLande 1987). Later H.B.C. trapping brigades of the 1830s-40s probably continued to take beaver from the lower Little Butte Creek watershed. The "trap out the streams" policy of the Company in this region may have resulted in a substantial decrease in beaver numbers (and hence resulted in changes to "beaver-caused" streamflow characteristics well before the first actual Euro-American settlement began).

Initial Settlement: Euro-American agricultural settlement of the Little Butte Creek watershed--stimulated by discovery of gold in the nearby Siskiyou Mountains--began in 1852-53. About twenty individuals claimed land parcels along the lower sections of Little Butte and Antelope creeks under terms of the

Oregon Donation Land Act. Among them were James Fryer (often credited as "founder" of the later community of Eagle Point), John Mathews, Nick Young, Larkin McDaniel, James Lupton, and Lewis Reese (Hegne 1990). Scattered farms, typically drawing a small amount of irrigation water from nearby streamcourses, dotted the lower valley. Residents of the "Butte Creek precinct" (as the thinly-settled lower valley was termed in Jacksonville newspapers of the day) were located well off the main north-south travel route through southwestern Oregon. Living in a hinterland, they apparently formed a cohesive (and politically conservative) rural community (e.g., during the Civil War, local pro-Union citizens considered the Butte Creek area to be a hotbed of Confederate sympathizers).

Livestock: Little Butte Creek settlers, as well as ranchers from elsewhere in the Rogue River Valley, grazed livestock throughout the watershed during the 1850s-1870s. Hogs ranged the lower valley woodlands for several decades. Although sheep were grazed in the watershed during these early years, they would become much more significant in terms of numbers (particularly at high plateau meadows) during the 1880s-1890s (Leiberg 1900). Cattle were the mainstay of the watershed's agricultural economy from the early historic period to the present time. This was especially true during the 1860s-80s--when Rogue River Valley cattle not only helped to feed the booming mining towns of Idaho but also stocked the new ranges of the Inland West, from eastern Oregon to central Montana. Large numbers of cattle and sheep, driven from lower valley pastures to high plateau meadows each summer, would have contributed directly to changes in the watershed's forage species and range condition. These effects would have been concentrated along streamcourses, at springs, and at meadows.

The southern portion of the high plateau was more easily accessed from the Ashland area than it was from lower Little Butte Creek. There, some of the plateau's larger meadows became particularly important summer pasture at an early date, as indicated by Ashland ranchers' 1858 and 1865 water rights to the headwaters of Dead Indian Creek for irrigation of northernmost Howard Prairie and Owens Prairie (Circuit Court 1949).

Hunting: Ranchers quickly set about trying to rid the country of large predators. Cougars survived the campaign of elimination, but grizzly bears and wolves would have been exterminated from the watershed by about 1900. Early settlers availed themselves of deer, elk, black bear, quail, grouse, and other game. The high-plateau section became known before 1870 as a "hunter's paradise," a reputation it maintained into the early 1900s. Antelope and bighorn sheep populations (probably never large) likely would have disappeared due to hunting and introduced disease very soon after 1853.

#### **Settlement of Upper Valley/Canyons, Related Use of High Plateau (ca. 1870-1900)**

A New Wave of Settlers: Above Brownsboro, new arrivals came to the upper valley (which generally contained far less desirable farmland than did the lower valley section) beginning in the 1870s. (According to Walling [1884], one of the earliest Euro-American residents in the upper valley/canyon area was a former Hudson's Bay Co. employee; perhaps this man had trapped in the Little Butte Creek watershed during the 1830s-40s.) Upper Antelope Creek was settled as far upstream as Climax during the 1870s as well. Families that homesteaded the area during the 1870s-90s included American citizens of British heritage (e.g.,

McCallister, Brown, Charley, Tyrrell, Daley, Conley, Bradshaw, Walch) as well as a sizable contingent of recent immigrants from Germany (e.g., Bieberstedt, Meyer, Messal, Edler, Hoeffft, Pech, Frey) and several arrivals from Switzerland and the Austrian/Italian area of Tyrol (see Hegne 1990).

Logging and Sawmilling: This period saw the first harvesting of timber from the canyon forests. The turn-of-the-century, water-powered McCallister sawmill on the North Fork was probably one of the largest in the watershed at this time, but it actually produced comparatively small amounts of lumber for a local market. The Worlow sawmill near Climax, dating to the 1870s, also sold rough-cut lumber for use by area settlers. It is likely that--aside from cutting of low-elevation and easily accessible white oak, madrone, and Douglas-fir for fuelwood--most of the small-scale logging of this era concentrated on sugar pine and ponderosa pine. This selective harvesting (with teams of oxen and horses moving logs to the mill) would have affected relatively small portions of the upper valley/canyon section close to the millsites. The timber of the high plateau remained virtually untouched, except for occasional felling of large sugar pines for manufacture into shakes (Leiberg 1900).

Transportation Routes: Within the upper valley/canyon and high plateau sections of the watershed, most areas were accessible only by foot or by horseback. A network of trails up to and through the high country developed during this period. Wagon travel was limited to only a few routes. Within the watershed, Dead Indian Road (completed in 1870) was the only trans-Cascadian wagon road (i.e., linking the Rogue River Valley and the Klamath Basin). However this road merely passed along the southern edge of the high plateau (connecting Ashland with Fort Klamath) and did not serve the needs of most Little Butte Creek settlers. Reflecting the pace of settlement in the upper valley, wagon roads were extended gradually up the North Fork and South Fork canyons from the Eagle Point/Lake Creek road. But neither of these roads accessed the high plateau; from their termini, travelers bound for Fish Lake or the Klamath Basin had to unhitch their horses and ride. (Because of the formidable barrier posed by both the Brown Mountain lava flow and the steep slopes of the upper South Fork Canyon, this situation would continue until after Forest Service road construction projects in the 1930s.)

Due to the lack of a practical trans-Cascade transportation route through the Little Butte Creek watershed until well after 1900, the pace of economic and social development of the lower valley lagged somewhat in comparison to similar-sized communities in the main Rogue River Valley.

Ranching: In the upper valley/canyon section during this period, most agricultural endeavors centered on raising livestock. Although sheep from large Rogue River Valley operations grazed on the high plateau each summer, Little Butte Creek ranchers by this time concentrated on cattle and horses. Most ranches were small holdings, but the Hanley family's Little Butte Creek property proved to be an exception. Michael Hanley owned extensive acreage near Jacksonville and in the Applegate Valley. Expanding his cattle operation to the east, Hanley acquired several thousand acres near the confluence of the North Fork and South Fork. Headquartered on the North Fork, near Wasson Canyon, the Hanley spread included over 1,000 acres of irrigated pasture.

Ranchers in most rural areas of southwestern Oregon continued the native practise of burning certain areas, albeit for different purposes. Meadows and

grasslands--prime grazing areas--were torched regularly so as to halt encroachment by conifers. Hunters burned brushy areas so that the resulting new growth would attract deer. This "light burning" by local residents persisted until well after 1900.

Irrigation Withdrawals: A typical Little Butte Creek ranch included a vegetable garden and perhaps a small fruit orchard. The main demand for irrigation water, however, was for livestock pasture and hayfields. Flood irrigation from unscreened ditches was the norm; as a result, many small fish doubtless became unintentional fertilizer for alfalfa.

By the early twentieth century, the North Fork was tapped by at least fifteen separate ditch diversions for irrigating local ranches; the South Fork had a similar number of small ditch diversions. Excluding additional withdrawals from the two forks for large irrigation districts located outside of the Little Butte Creek watershed (as well as for powering the McCallister sawmill, where the water was returned directly to the creek), a total of 27 cubic-feet-per-second of water from the North Fork was allocated to local irrigators by shortly after 1900. (The Hanley property accounted for over 17 cfs of this amount.) For the South Fork, the allocation was a little over 17 cfs (Circuit Court 1949).

Recreation: Hunting, including the indiscriminate slaughter of deer and elk by commercial hide-hunters, would have continued during this period with little effective restriction by game limits. Local hunters found two mineral springs, one each on the North Fork (McCallister Soda Springs) and the South Fork (Dead Indian Soda Springs). The springs became popular summer "health resorts" for residents of the hot lower valley. Developments were minimal at both; tent camping remained the norm at Dead Indian Soda Springs until after 1900, when a few cabins were built (LaLande 1980). Anglers would have taken salmon and steelhead from the two canyons, but the historical record is almost silent on this subject.

Landscape Conditions around 1900: By the turn of the century, exclusive of Eagle Point, only a few hundred people lived within the Little Butte Creek watershed, most of them engaged in ranching operations (with minor seasonal employment at a handful of small sawmills). Wildlife conditions, due to both predator control and over-hunting, probably reflected lessened populations and decreased diversity of larger species. Irrigated agricultural acreage, although not extensive, did modify the valley/canyon bottomlands significantly, and streamside grazing likely began to change the structure of riparian areas at this time as well. Grazing (especially by sheep) at high-plateau meadows had probably severely impacted some of them. However, continued "light burning" by ranchers and hunters (as well as the lack of suppression of natural fires) probably meant that, in the upper valley/canyon section, some of the prehistoric appearance of the hillside grasslands, oak woodlands, and open pine-dominated forest remained.

Federal forester John Leiberg, visiting the Little Butte Creek watershed in 1899, described the upper valley foothills (from Brownsboro to past Lake Creek) as open or brushy (dominated by dense thickets of mountain magogany) and having little good quality timber--the "scanty" stands of good-quality mill timber "having long since been cut out." He recorded Township 37 South, Range 3 East (which centers on the upper canyon of the South Fork) as "steep, rocky" country, with scattered stands of "medium density" pine/fir forest that were "intersected

by great numbers of small rocky glades." In the next township to the east (on the high plateau), Leiberg found that the fir-dominated forest south and southwest of Fish Lake contained "considerable tracts...burned within recent years"; he determined that many of the fires had been set "to provide browse for stock." Along the North Fork below Fish Lake were a series of "narrow swales of grazingland, marshy or merely wet during stages of low water, submerged during flood seasons" (Leiberg 1900).

#### Expanded Use and Federal Land Management (ca. 1900-1940)

The decades following 1900 brought increasing use of the watershed's resources. The major factor in the intensified use and extraction of natural resources was southwestern Oregon's link to the rest of the nation by railroad. Population of the main Rogue River Valley boomed, ranches of the main valley were subdivided into small irrigated farms, and a whole range of local commodities could now be shipped long distances from the growing new city of Medford. By and large, uses of the watershed before 1900 were mainly by local people, and resources were typically utilized or consumed either by watershed residents or were sold to others in southwestern Oregon. This "local economy" focus of the watershed began to change after the railroad arrived, accelerating after 1900 as local resource use and consumption paled beside the reach of corporations and the draw of markets located outside of the immediate area.

Despite rapid population growth elsewhere in Jackson County, the actual number of new settlers within the Little Butte Creek watershed during the early 1900s was quite small. Had the proposed town of Eldrianna (platted on the lower North Fork in the mid-1890s) actually materialized, the situation might have been very different. Eldrianna was meant to become home to land-hungry families from the East Coast and Chicago, who would leap at the chance to purchase residential lots in the rustic woods of Oregon (Hegne 1990). The scheme never went beyond an initial land survey and some promotional efforts back East.

Mining: Compared to the Siskiyou Mountains, which form the west slope of the main Rogue River Valley, the volcanic formations that make up the Little Butte Creek watershed contain almost no valuable mineral deposits of any kind; mining has therefore been unimportant.

During the late 1930s, the clay exposed in an abandoned cinnabar (mercury ore) prospect near Brownsboro was briefly mined by a Klamath Falls brick manufacturer (State of Oregon 1943). The only mineral activity of any significance occurred during World War I, when about a dozen small-producing manganese mines were developed in the Lake Creek vicinity. The manganese ore occurs as nodules disseminated in the volcanic breccias of upper Lake Creek, Lost Creek, and as far north as Salt Creek.

Most of these mines (which began in 1917 with the high war-time demand for the metal and closed down soon after the 1918 armistice) consisted only of scattered open cuts and some short tunnels. The largest of the Lake Creek mines, known as the Tyrrell Mine, included a 20-ton concentrating mill. The Tyrrell Mine produced about 200 tons of concentrate (apparently shipped to Tacoma for further refining) before the owners closed the property permanently and shipped the machinery back to Tacoma in 1919 (State of Oregon 1943, Hegne 1990). Some short-lived water and air pollution may have resulted from the operation, but

the only lasting legacy of the area's manganese "boom" are a few collapsed tunnels in the hills south of the Lake Creek store.

Ranching: During the war-time high beef prices of 1914-1918, Little Butte Creek ranchers--like many stockmen in Oregon--expanded their herds greatly, going into debt and overstocking the range. Soon after the war, the cattle market collapsed and many small ranchers left the business. The locally-owned Hanley operation was sold to distant interests during this period. By 1922, the number of cattle and sheep within the watershed probably had declined significantly. No detailed range-condition reports are available for the area (as they are for other portions of the Rogue River National Forest) during this time, but if higher-elevation range conditions elsewhere in southwestern Oregon are used as a guide, the years of uncontrolled, competitive grazing in the watershed's canyons and high plateau had resulted in badly degraded range conditions by this time (LaLande 1995). Although livestock raising remained an important part of the watershed's economy throughout the rest of the twentieth century, after 1930 sheep were excluded and the numbers of cattle more carefully distributed than before the Great Depression.

Logging: Because of the watershed's lack of railroad accessibility, as well as the scattered nature of its high-valued timber, large-scale logging did not occur during these years. A major railroad logging operation, Owen-Oregon/Medford Corporation, did develop immediately north of the watershed, in the Big Butte Creek watershed--with railroad spurs tapping thousands of acres and carrying logs down through Butte Falls to the mill in Medford. The Little Butte Creek forests, in contrast, echoed not to the whistle of steam locomotives but to the rhythmical sound of the occasional crosscut saw felling a pine; small mills (probably fewer in number than before 1900 because most of the accessible pine had already been cut) still produced some lumber for the local market. Some commercial cutting from "O-and-C" lands likely occurred in the lower hills of the canyon section during the 1920s.

Agriculture and Irrigation: The Rogue River Valley's orchard boom years began shortly before 1900. Thirsty orchards demanded water, and large-scale irrigation development of the Little Butte Creek watershed began in 1897 with the first Fish Lake dam, a cribbed-log structure. The relatively small natural lake was impounded and enlarged by successive dams, built in 1911 and 1922. Its spring-fed waters were augmented by construction of the Cascade Canal, which brought water from Fourmile Lake (outside of the watershed). These projects, which at times significantly lowered flows of the North Fork during critical times for the anadromous fish, were largely meant to service farmers living outside of the watershed, near Medford; a supplementary diversion from the South Fork had similar effects. In addition, rapidly growing Medford obtained its domestic water supply from Fish Lake until 1926. (LaLande 1980)

Very little new agricultural land was improved during this period within the watershed. On the edge of the high plateau, a few hardy individuals homesteaded 160-acre claims between 1905 and 1915. The object of some was to obtain ownership to meadows for summer grazing; the motivation of others was speculation: to acquire patent to potentially valuable timber and later sell the parcel to a timber corporation (LaLande 1980). (This is how many of the parcel of private land within the National Forest portion of the watershed were originally obtained.)

Federal Land Management: Much of the upper-valley/canyon section and virtually all of the high plateau were included in the Cascade Forest Reserve, proclaimed in 1893 but not given active management of any kind until 1900. Soon thereafter the Forest Reserve was renamed the Crater (later Rogue River) National Forest. Oregon-and-California ("O-and-C") railroad-grant lands within the higher elevations of the upper valley/canyon section were "revested" to the federal government in 1916. (Administration of these lands passed from the General Land Office to the O-and-C Administration in 1937 and to the new Bureau of Land Management in 1946.) During the 1900s-30s, federal land managers in the watershed concentrated their efforts on building trails and a few roads, administering range allotments, and suppressing fires. Fire lookouts were built at Poole Hill and Robinson Butte, and guard stations were erected at Dead Indian Soda Springs and Big Elk Prairie.

Recreation and Transportation: Recreational use of the watershed had been quite limited and widely dispersed until after 1920. About that time, an increasing population in the Rogue River Valley began to seek recreation opportunities at a few favored locales within the watershed, primarily at Dead Indian Soda Springs and Fish Lake. Auto roads (typically drivable only during the summer and early fall) had reached these two places by 1930. Forest Service recreational construction at both places during the Great Depression (employing Civilian Conservation Corps and Emergency Relief Work crews) helped both the springs and the lake become popular summer destinations for increasing numbers of people. At Fish Lake, a resort with rental cabins augmented the Forest Service campground; at Dead Indian Soda Springs, additional cabins appeared within the private special use permit area. (Also during the Depression, near the former site of Eldrianna, a small group of co-religionists established a short-lived settlement called "The Golden Rule"; disagreements among the members quickly ended the experiment [Hegne 1990].)

Dead Indian Road remained the only trans-Cascade route through or near the watershed until the 1930s. In the 1910s, the Conde Creek road, a very rough wagon road, connected the South Fork to Dead Indian Road via the ridge west of Dead Indian Road Creek (this route closely parallels present Conde Creek Road); in the 1920s, the Forest Service connected Fish Lake to Dead Indian Road by means of the "Big Elk Road" (present road 37), a rough dirt track through the forest that crossed higher but gentler terrain than the Conde route. In the 1920s, the Forest Service constructed a dirt road up the North Fork to Fish Lake, and finished extending it east over the mountains by the mid-1930s. Built through the rugged Brown Mountain lava flow--which had long diverted most travel away from the upper North Fork--the road accessed the even more appealing waters of Lake-of-the-Woods. It also provided direct travel between Eagle Point and the Klamath Basin during the snow- and mud-free seasons. As a result, the Little Butte Creek valley was no longer such a "blind alley" for easy travel across the mountains.

Other new routes developed during the 1930s included a road from Dead Indian Soda Springs to Big Elk Prairie via Robinson Prairie (present road 3730) and a road to the summit of Robinson Butte.

#### **World War II and After (1940-1980s)**

Irrigation and Recreation: As with other resources in the area, water came under increasing demand after 1940. In the 1950s, the federally funded

expansion of Talent Irrigation District's facilities (i.e., Howard Prairie Reservoir) tapped the South Fork by means of a long canal and the Deadwood Tunnel--transferring water outside of the Little Butte Creek watershed for irrigation use as far away as the Siskiyou foothills of Ashland. The U.S. Bureau of Reclamation improved Fish Lake dam in the 1950s and enlarged it in 1996-97. In the lower and upper valleys, major floods in 1964 and 1974 caused substantial erosion and deposition; "flood control" work along the streamcourse, typically involving large earth-moving equipment, further modified the hydrology and riparian vegetation of Little Butte Creek.

Recreation use increased greatly with the road-building of the post-war era. The proliferation of roads admitted more hunters throughout the canyons and high plateau. During the late 1940s and 1950s, the Forest Service built modest-sized but popular campgrounds along Big Elk Road. The Methodist Church acquired the special use permit at Dead Indian Soda Springs (changing the name to "Latgawa Camp" in the 1980s) and converted the site into a regional church camp. Fish Lake became quite popular as an angling and camping destination for local families. The Forest Service platted summer-home lots on the west end of the lake in about 1948, and a number of summer homes appeared in the 1950s-60s. The Forest Service enlarged the camping capacity on the north shore of the lake, the resort expanded, and winter uses such as snowmobiling and cross-country skiing drew more people to the high plateau during a time of the year when, previously, the area had been almost without any people.

Logging, Fire Suppression, and Transportation: High wartime demand for wood products made the heretofore remote forests of the watershed's canyon and high plateau valuable for logging. Starting in 1943 and continuing through 1946, the Forest Service offered a number of timber sales in the higher elevation portion of the watershed. Accessing these stands of federal timber from Dead Indian Road, logging companies that cut selectively during this period included: Joe Hearin Logging (mouth of Big Draw Creek, Daley Creek), White Fir Lumber Company (upper Beaver Dam Creek), Alley Brothers (Deadwood Prairie), and Jansen-Edmonds Logging (north slope of Cox Butte) (LaLande 1980). The timber was processed at several small mills located along Dead Indian Road or hauled to mills in Ashland. Many of the companies mentioned above simultaneously logged nearby private parcels, generally by clearcutting the timber; these operations probably logged BLM timber in the Conde Creek area as well.

Following the war and lasting into the 1960s, Forest Service clearcut harvesting occurred on the high plateau; in the 1970s, due to reforestation problems, silvicultural prescriptions changed to shelterwood harvests. By 1980 virtually the entire high plateau (with the notable exception of the Brown Mountain lava flow) had been roaded and logged intensively. Aside from selective "high grading" with tractors during the 1950s-60s, logging on the steep canyon slopes lagged behind that on the plateau, due both to intermingled ownership and to the expense of road-building and skyline yarding systems. By the 1970s, timber in the upper drainages of Antelope, Lost, Deer, and Soda creeks had been accessed and logged.

Throughout the late nineteenth and early twentieth centuries, great fires swept periodically across the high plateau and the canyon slopes. Federal fire suppression efforts became truly effective after 1930; with increased roading and air-tanker fire-fighting capability, very few fires grew beyond a few acres in size after 1960. Along with timber harvest, fire suppression efforts of the

twentieth century greatly changed the appearance of many forest stands in the watershed--particularly the more open pine-dominated areas of the canyons. Douglas-fir and white fir have proliferated as "thickets" in many places. At lower elevations, areas of open grassland have shrunk as buckbrush, manzanita, and copses of white oak have expanded across the landscape. Sugar pine probably decreased significantly as a component of the mixed-conifer forest, due to a combination of selective logging for pine, white pine blister rust, and competition from fire-intolerant species.

For the most part, watershed transportation development during the post-war period was an integral part of logging. The upper North Fork/South Fork "tie" road (present Forest Service road 2815) was built in the early/mid-1950s, as were the Daley Prairie loop (present road 3720), the first three miles of the road up Big Draw (road 2520), and the Little Elk Prairie route between Iron Spring Gulch and Deadwood Prairie (road 3710). Much of the rock used to surface the high-plateau road system came from the Big Elk cinder pit, located about two miles southwest of Fish Lake. The BLM's Soda Creek Road was begun from the South Fork in about 1960 and reached the headwaters of Soda Creek by 1963. Inter-ties, spurs, and other tributary access routes proliferated during the 1970s. On the "flat ground" of the high plateau tractor skid roads were extremely common. New recreation trail development during this period was restricted to the Pacific Crest National Scenic Trail (on the extreme eastern edge of the watershed) and a few shorter trails originating from Forest Service campgrounds at Fish Lake and Beaver Dam Creek. The very recent BLM trail to the summit of Grizzly Peak (located on the southwestern edge of the watershed) became very popular with Ashland residents and others as soon as it was completed.

By far the major transportation improvement in the watershed was construction of State Highway 140, up the North Fork and across the Cascades, in the early 1960s. Billed as the "Winnemucca-to-the-Sea Highway" by the local chamber of commerce, it has become the main travel route between the Rogue River Valley and the Klamath Basin. The venerable wagon route of Dead Indian Road continues as an important commercial and recreational access road. (In response to opinions that the name of the road was offensive, the Jackson County portion was officially renamed "Dead Indian Memorial Road" in the 1990s; some people prefer to use the term "Indian Memorial Road" or "Indian Road.")

The period since the Second World War has witnessed steadily increasing resource use within the Little Butte Creek watershed, particularly so in the forests of the canyon section and high plateau. Most of the extractive natural resources, particularly timber, were removed from the watershed for processing and use outside of the local area. By the 1980s-90s, declining populations of fish and non-game wildlife in the wider area had become the focus of regional and national attention. Much of the high plateau was included as a "late successional reserve" under the 1993 Northwest Forest Plan, and the South Fork was designated a "key watershed." On private lands in the lower valley/canyon section, residential construction has accelerated since 1970. New homes, ranging from modest mobile homes to large hilltop residences, dot the area. The hamlet of Lake Creek, with a restaurant and community hall to augment the store and grange hall, serves a growing "rural neighborhood," along with increasing numbers of visitors. The permanent human population of the upper valley/canyon is far larger than it ever was in the past.

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