

Chapter 4

Establishing Roots; Harvesting Resources

1850s- 1915

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Introduction

The exodus of most placer miners from the southern Black Hills, where rumors of gold had caused a stampede to French Creek, was followed by an extended period of hesitant but gradual growth in Custer City and Custer County. Custer City evolved from a noisy, boisterous mining camp to a small center providing services, supplies, and agricultural products to productive mines farther north. Many local residents turned from extracting minerals to growing crops, grazing cattle, and harvesting timber. Custer City became a small entrepot, linked by trails, roads, telegraph, and eventually rails to other Black Hills communities with economies based heavily on mining, agricultural, and, eventually, recreational activities. Those Euro-Americans who settled Custer City and County may have mined with one or two partners on a small-scale or simply as a speculative pursuit that required limited capital or improvements. Only a small number of larger company-owned mines emerged in the late 1800s in the Custer area. Most who settled there, however, took up other activities—freighting, milling (lumber and flour), merchandising, and especially, farming, ranching, and logging. Jewel Cave was discovered and brought to the attention of the public during this period of predominant farming, ranching, timber harvesting, and small-scale speculative mining.

While the Black Hills' placer deposits were worked out in the last quarter of the nineteenth century, there was a great surge in agricultural activities in the broad Missouri River Valley to the east and in the Black Hills. During this "Great Dakota Boom," from 1878 to 1887, the overwhelming majority of Dakotans earned their livelihood from the soil. Early settlers in central and eastern Dakota Territory at first raised sod corn, potatoes, and vegetables. Black Hills farmers raised certain grains and vegetables for local consumption. Later, wheat became the principal grain grown on open valley floors in the Hills. The combined effect of a decline in the price of wheat, a prolonged drought, and a long harsh winter caused severe economic hardship for farmers in the Black Hills and throughout the Dakota Territory, thus turning boom into bust by the late 1880s.

Despite the heavy toll taken among Dakota cattle herds by the harsh winter of 1886-1887, more than fifty ranching outfits continued to graze their herds on broad stretches of public land on the Dakota prairies and grassy valleys of the Black Hills, from statehood in 1889 into the early 1900s. By World War I most of the large cattle operations had been sold to small farmers. The population in the cattle areas of western South Dakota tripled between 1910 and 1920, when the onset of declining prices brought an end to the range-cattle industry.

Milling Lumber for Homes, Mines, and Farms

Logs, hewn or not, were used for many decades to construct outbuildings. Milled lumber, none-the-less, made its appearance within a few months after the arrival of the first Euro-American miners. Sawn boards replaced logs for buildings, wagons, furniture, tools, and even small bridges. Sawn timbers also played a crucial role in hard-rock mining, where a geometric system of supports was a requisite part of underground excavation. Eventually, railway companies also looked to the Black Hills for timbers that could be used as railroad ties. The use of Black Hills timber for shelter, agriculture, mining, and, eventually, transportation left an indelible imprint on the landscape, by adding to the built environment and subtracting from the native forests.

Cutting and sawing trees was one of the first pursuits of Euro-American settlers, as logs and, very soon, planed lumber provided the primary material for house construction. Newcomers also depended on wood for heat in the sometimes bitterly cold Black Hills winters. Logs, sawn or whole, were used for outbuildings of all sorts and fencing for farm animals (and eventually livestock). The developing mining industry depended on logs and sawn lumber. Timber was the essential material for building sluice and rocker boxes for placer mining operations and for providing tunnel supports for deep-rock mining. Wood provided the structural members for early bridges and sidewalks, and it was even used to make vehicles. The first steam engines in mills burned wood. Next to food, wood was the most basic resource in the nation's economy, and the Black Hills seemed to offer an inexhaustible supply of this valuable natural resource.

Soon after Euro-Americans came to live in the Black Hills, they began producing lumber by whipsawing logs with a long thick-toothed saw. Within months, this arduous task was replaced by portable mills. Historians disagree about who established the first mill, although all concede that it was early. Some claim that John Murphy set up the first sawmill on the banks of French Creek, near the middle of the present town of Custer, in April 1876. A month later, Murphy moved to Deadwood after the discovery of gold there, leaving his mill behind in Custer. Months later, Murphy moved his portable sawmill from Custer to Rockerville in the east-central Hills. Tom Monahan, Pat Murphy, and Dave Ducent arrived in Custer not long after John Murphy's departure.¹ According to another historical account, John F. Street, who went to the northern Hills with his sawmill in early June 1876, was the first to set up a sawmill in the Black

¹ Martha Linde, *Sawmills of the Black Hills* (Rapid City, South Dakota: Martha Linde, 1984), 2-3.

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Hills. A third account claims that E. G. Dudley, from Cheyenne, began operating the first sawmill in Deadwood.² In the mid-1870s, a sawmill could cut enough lumber in a day to build a small cabin or house, or approximately 10,000 board feet.

The early portable sawmills had saws and other heavy equipment mounted on skids, which were dragged from site to site. An early milling operation included an excavated sawpit and two individuals, one in the pit and one above, who cut one plank at a time by pulling back and forth on a long saw. The mill would frequently be situated either near or within the stand of timber being harvested, or near the mine purchasing most of the mill's lumber. A tree would be felled and limbed, then attached by harness to a horse or oxen that would drag it to the nearest mill. It wasn't unusual for a well-trained animal to deliver the log to the staging area alone, without the supervision of its handler, who would stay behind felling the next tree for the animal to haul. After having the log removed from its harness, the horse, without human intervention, would navigate its way back to its owner for another log. This method was used from the time the first mills were established in the Hills until the late 1920s.

Since early mills were fairly portable and mill operators, like miners, moved often to take advantage of new demands for sawn lumber, sawmill operations tended to be fairly transitory. Consequently, the number of mills at a specific location, like Custer, fluctuated. In the middle of August 1876, Custer then supported three sawmills (one of which was steam-powered), one planer, and one shingle mill.³ In the spring of 1880, new arrival John Durst and his sons began operating a sawmill, two miles west of Custer. The mill, freighted from Cheyenne and later moved eight miles south of Custer, produced lumber for many years and contributed to the physical up-building of Custer and other southern Black Hills' communities.⁴ The 1880 census indicates that a lumber manufacturer, two millwrights, and one sawyer lived in Custer County.⁵ At that time, the mills near Custer reportedly produced more lumber than all other mills in the Black Hills combined. By 1895, twenty mills operated in and around Custer.⁶

In 1897-1898, of the forty-two sawmills in the Black Hills,⁷ roughly two-dozen mills operated near Custer.⁸ Every timbered gulch in the Hills

² Allyson Brooks, Brad Noisat, and Linea Sundstrom, "Development of the Black Hills," *Black Hills National Forest Cultural Resources Overview* (Custer: Black Hills National Forest, 1996), 5b-1.

³ Linde, *Sawmills of the Black Hills*, 3.

⁴ *Ibid.*, 4.

⁵ "Schedule No. 1-Population," Custer County, June 1880.

⁶ Brooks, Noisat, and Sundstrom, "Development of the Black Hills," 5b-1.

⁷ Bob Lee, "It Started with a (Mining) Boom," *South Dakota History* 31: 3 and 4 (Fall/Winter 2001), 283.

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with stands of timber had a portable sawmill around the turn of the century, according to Forest Service records.⁹ A 1904 map of the southern Black Hills shows a few mills scattered around the countryside. One stood about ten miles east of Custer; another was about ten miles southeast of Custer toward Buffalo Gap.¹⁰

Farming

Cultivating crops and raising livestock were other aspects of the Euro-American process of settling a new country. Euro-American pursuit of agricultural activities, like building shelters and sawmills, also left their own visible imprint on the landscape of the southern Black Hills. Among the thousands who rushed into the Black Hills in search of precious gold were many who believed that the soil of the valleys provided a surer source of income than elusive metals. This perception was embraced by many new arrivals, despite the limited rainfall in the southern Black Hills, averaging only sixteen inches annually. According to local Black Hills historian Fred Whitley:

French Creek became the home of pioneers who saw in a bustling camp a profitable market for the goods and services. Especially significant were the cattlemen and farmers who settled the valleys and foothills near Custer City. They found hungry prospectors and assayers willing to pay high prices for beef, poultry and produce.¹¹

Farming and ranching throughout the Black Hills first existed to support mining operations. As early as 1880, the total number of “farmers” in Custer County,¹² around eighty, nearly equaled the number of miners (as

⁸ Fred W. Whitley, “A History of Custer City,” *South Dakota Historical Collections*, Vol. 37 (Pierre: South Dakota State Historical Society, 1975), 335. Also see Carl A. Newport, *A History of Black Hills Forestry* (Pierre: South Dakota Department of Game, Fish, and Parks, 1956).

⁹ Brooks, Noisat, and Sundstrom, “Development of the Black Hills,” *Black Hills National Forest Cultural Resources Overview*, 5b-2.

¹⁰ “The Black Hills Reached Via the North-Western Line,” map (Chicago: Chicago & North-Western Railway, 1904), South Dakota-Black Hills vertical file, American Heritage Center, University of Wyoming, Laramie, Wyoming.

¹¹ Fred W. Whitley, *A History of Custer City, South Dakota, 1874-1900*, *South Dakota Historical Collections*, Volume 37 (Pierre: South Dakota Historical Society, 1975), 279.

¹² Custer, Lawrence, and Pennington counties were organized in 1877, encompassing much the Black Hills. As additional counties were created in the

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noted in the previous chapter). Throughout the Black Hills most of these farms, tucked away in such valleys as Spearfish, Whitewood, Rapid, Bear Butte, Spring, Fall River and French Creek, were limited to a few hundred acres.

Even before Euro-Americans began settling in the southern Black Hills, visitors to the Hills made favorable reports of the agricultural potential and prospects for raising crops and grazing livestock. Government expedition leader Lieutenant Gouverneur K. Warren, who came through the Black Hills in 1857, wrote of the “beautiful flowing streams and small rich valleys covered over with fine grass for hay.”¹³ In 1874, Lieutenant Colonel George Custer, traveling through the Black Hills, including French Creek east of Hell Canyon, described the valleys as “open and extremely fertile. . . . The soil is that of a rich garden.” He found a profusion of wild fruit—raspberries, strawberries, currants, gooseberries, huckleberries, and cherries. “If nature uncultivated does all this,” exclaimed Custer’s botanist, A. B. Donaldson, “what might not a skilled horticulturist attain.”¹⁴ One year later, government expedition leader Walter P. Jenney similarly enthused about the prospects for cultivating the soil. “The soil of the valleys,” Jenney wrote, “the broad swales of the parks, and the bottom lands along the creeks is exceedingly rich and deep.”¹⁵ Jenney went on to observe that the “luxuriance with which the heavily seeded grasses known commonly as wild rye, cheat, and wild oats grew on the rich bottoms along the eastern slope would indicate that an equally rank growth of the cultivated cereals and grasses to be expected.”¹⁶

Only one year passed before the first known attempt by a Euro-American to actually cultivate the soil of the Black Hills. In 1876, Ed Wolfe reportedly planted corn, potatoes, beans, peas, cucumbers, parsnips, and carrots in the vicinity of Crook City (north of Deadwood). The success and profitability of the first year’s experiment encouraged him to plant ten acres in general crops the next year. In 1878, Wolfe planted one hundred acres of crops, which he sold to eager consumers in surrounding towns at high prices (since the lack of railroads into the Black Hills at that time made fresh foodstuffs unavailable to residents). Other newcomers in the northern Hills soon planted other crops—oats and other grains—with similar early success. After congressional approval of the treaty that legally removed Indians from the Black Hills in February 1877, many new settlers

Black Hills between 1883 and 1889, the Custer County boundary has changed. See Cleophas C. O’Hara, *O’Hara’s Handbook of the Black Hills* (Rapid City, SD: Black Hills Handbook Company, 1927), 41-43.

¹³ Quoted in Hyman Palais, “History of Stock Raising and Agriculture in the Black Hills,” *Black Hills Engineer* 28 (September 1942), 62.

¹⁴ *Ibid.*, 62 and 63.

¹⁵ *Ibid.*, 63.

¹⁶ *Ibid.*, 65.

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to the Hills came not to mine but to farm.¹⁷ Planting and harvesting crops were natural pursuits for many of the earliest Euro-American newcomers to the southern Black Hills, the vast majority of whom had come from the humid east and middle west of the United States (New York, Pennsylvania, Indiana, Illinois, Iowa, and Missouri) from Canada, and from Germany, where they had probably farmed.¹⁸

Other Black Hills valleys were soon cultivated and began to yield impressive crops of grain and vegetables. The valley of Rapid Creek became especially well known for its abundance of several crops—wheat, oats, rye, and barley, as well as vegetables (potatoes, beans, cabbages, lettuce, radishes, and turnips). Water was required to produce such large quantities of crops. In 1878, the Rapid River Ditch and Improvement Company formed and began constructing a ditch to irrigate 150 square miles, or 96,000 acres of the Rapid Valley. Even without irrigation, bountiful harvests of grain took place in other Black Hills valleys. Seventeen miles northwest of Custer City, for example, farmer Uri Gillett harvested an average of ninety bushels of oats per acre.¹⁹ With the nearest railroad over two hundred miles away in the late 1870s, Black Hills farmers sold their crops to an insatiable local market.

Federal legislation around this time induced Euro-American arrivals to occupy and “improve” arid land throughout the West by building upon and farming it, at little or no cost. Newspapers in and around the Black Hills widely publicized the availability of land at favorable prices. Under so-called “preemption” laws passed in 1841, every head of a household, or widow, or single man or woman over twenty-one who was a U.S. citizen or had filed a declaration of intention to become one, could preempt 160 acres of government land for the purpose of settling and making “improvements” to that land. After six months of occupation, the preempted acreage could be purchased for \$2.50 an acre (if it was within ten miles of a railroad) or \$1.25 (if more than ten miles away from a railroad). The Preemption Act remained in effect until 1891. The preemption of land considered “worthless” was further encouraged by the 1862 Homestead Act. This law allowed any U.S. citizen or intended citizen to select a surveyed but unclaimed tract of public land, up to 160 acres, and gain title to it after five years’ residence and prescribed improvements. The settler paid nothing for the land and only a modest fee for the service of the register and receiver. In 1873, congressional passage of the Timber Culture Act permitted a homesteader to acquire 480 acres of government-owned land, providing that trees were planted on some acreage.

¹⁷ Palais, “History of Stock Raising,” 65-67.

¹⁸ See previous chapter for a discussion of the place of origin of the first Euro-American settlers in Custer County.

¹⁹ Palais, “History of Stock Raising,” 67-68.

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Between 1880 and 1885, Dakota Territory took the lead in the number of acres entered under the Preemption, Homestead, and Timber Culture acts. The land claimed in 1888 alone was almost a fourth of all the public land that was claimed by settlers.²⁰ The Desert Land Act of 1877 permitted settlers to purchase 640 acres of arid and semi-arid public land if they agreed to irrigate it within three years. Although administration of these laws was notoriously lax, and speculators and dummy entrymen often acquired large areas fraudulently, these public land laws became most important in the initial development of owner-occupied farms in the middle West, including Dakota Territory.²¹ As time went by and it became clear that raising crops and livestock in the semi-arid Black Hills required larger parcels of land, the Enlarged Homestead Act of 1909, which permitted homesteaders to claim 320 acres (not just 160 acres) was amended in 1914 to include the state of South Dakota.²²

Many took advantage of opportunities created by land laws to acquire land and farm it. In the late 1870s, Rapid Valley settlers harvested sizeable crops of grain and vegetables. In 1880, Custer County, then with a population of around 995 people, produced a large quantity of oats—2,758 bushels. Smaller quantities of corn (288 bushels), barley (153 bushels), and wheat (128 bushels) were also grown. Wheat and corn were commonly rotated. Mills for grinding grain into flour for local markets appeared in Custer County's Hayward City as early as 1880. Alfalfa forage for livestock was also grown in certain areas at this time. During a series of wet years in the early 1880s produced impressive crops in Custer County and throughout the Black Hills, and convinced some that the popular belief, "rain follows the plow," was true. In 1885, the quantity of all grains harvested in the county had jumped substantially. County farmers produced 19,150 bushels of oats, 1,500 bushels of corn, 2,136 bushels of barley, and 945 bushels of wheat. In addition, Custer County farmers

²⁰ Allyson Brooks and Steph Jacon, *Homesteading and Agricultural Development Context* (Vermillion: South Dakota State Historic Preservation Center, 1994), 9.

²¹ The homesteader could gain title to the land after six months' residence if he/she commuted the homestead entry to a preemption entry by paying the preemption cost (\$2.50 or \$1.25 per acre). The Homestead Act was later amended to allow a homesteader to obtain full title and unrestricted ownership of the land after three years of occupancy. Paul W. Gates, "Homestead Act" and "Land Reform Movement," *New Encyclopedia of the American West*, edited by Howard R. Lamar (New Haven: Yale University Press, 1998), 492-93 and 614-16, respectively; Jessie Sundstrom and Linea Sundstrom, "Exploration and Settlement," *Black Hills National Forest Cultural Resource Overview* (Custer: Black Hills National Forest, 1996), 41-15; Palais, "History of Stock Raising," 69-70.

²² Rebecca Bernstein, "Ranches of Southwestern Custer County, South Dakota, National Register of Historic Places Multiple Documentation Form" (Washington, DC: Department of the Interior, National Park Service, 1990), E-3.

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harvested 7,245 bushels of potatoes. Custer County crop yields continued to increase and became more diverse. In 1887, oats (65,000 bushels) remained the leading grain grown, but was approached by corn (64,000 bushels). Wheat (24,000 bushels) and barley (6,600 bushels) were joined by quantities of flax and rye.²³

Railroads Arrive in the Black Hills

The introduction of the railroads in the mid-1880s and 1890s transformed the Black Hills farms into regional competitors. Heavily capitalized hard-rock mining operations at Homestead Mine in the northern Black Hills brought the first railroad to the region, on a twenty-two-inch narrow-gauge track, in 1879. In November 1885, the Fremont, Elkhorn & Missouri Valley Railroad (a subsidiary of the Chicago and North Western) had pushed its standard-gauge tracks northward along the southern rim of the Black Hills from Nebraska to Buffalo Gap, southeast of Custer, thus providing the first standard gauge service to the Black Hills. Early in 1886, an extension of the railroad reached Rapid City, the eastern gateway to the Black Hills. Railroad tracks reached Sturgis and Whitewood (near Deadwood) in the north in 1887. The Deadwood Central Railroad, with a route from Deadwood to Lead and also to Ruby Basin and Bald Mountain, went into service in early 1889. In December 1890, the Fremont, Elkhorn & Missouri Valley Railroad tracks reached Deadwood in the northern Hills as well as Hot Springs in the southern Hills. The first train arrived in Custer in early October 1891.²⁴

²³ Brooks and Jacon, "Homesteading and Agricultural Development, 16-18; Palais, "History of Stock Raising," 70-77; "Schedule 1: Inhabitants of Custer County," Territory of Dakota (Washington, DC: Bureau of Census, June 16, 1880), microfilm, National Archives and Records Administration, Washington, DC.

²⁴ Rick W. Mills, *Making the Grade: A Century of Black Hills Railroad* (Rapid City, SD: R. W. Mills, 1985), 55-56. Also see Mildred Fielder, *Railroads of the Black Hills* (New York: Bonanza Books, 1960).

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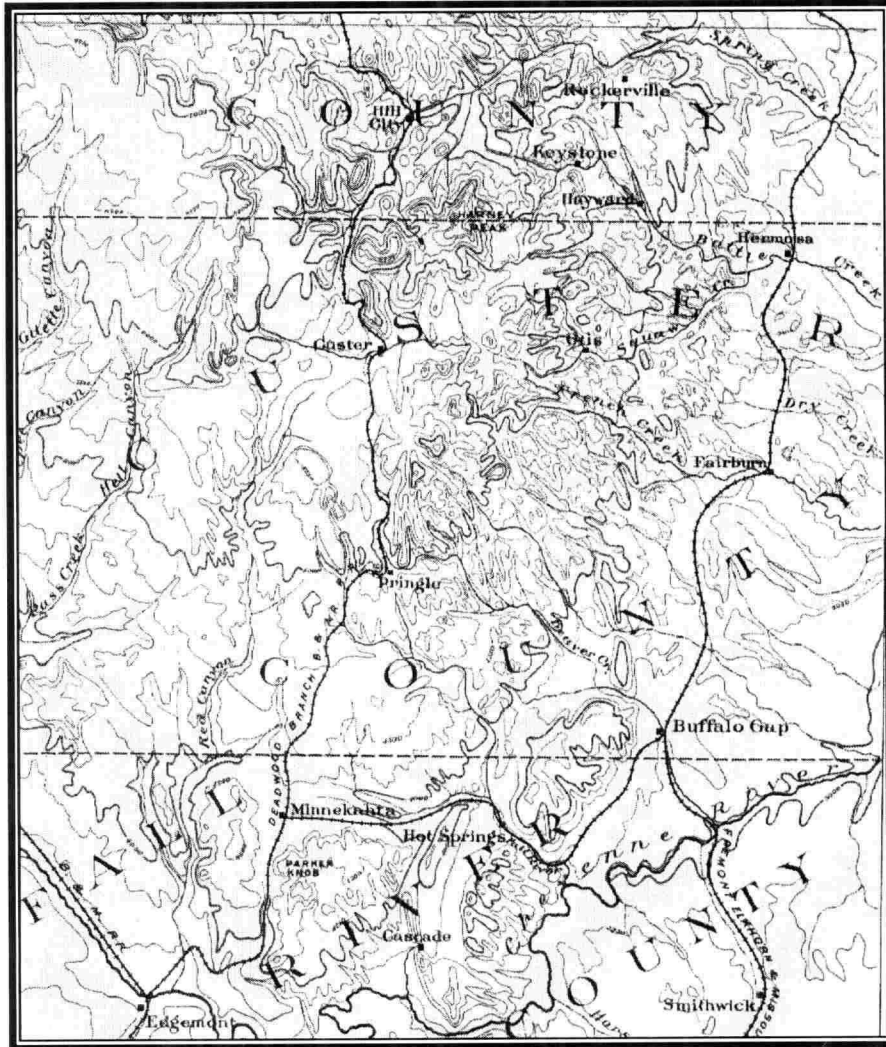


Figure 4-1. This 1899 map of Custer County shows the path of railroads through Custer, twelve miles from Jewel Cave, in the southern Black Hills. From N. H. Darton, "Map of the Southeastern Portion of the Black Hills," *Annual Report of the Department of the Interior for the Fiscal Year Ended June 30, 1900*.

The railroad first reached Custer in 1891. That year, the Burlington and Missouri River Railway arrived in Deadwood from Edgemont. Branches also extended to Hot Springs, Spearfish, and Keystone in the south, north, and east, respectively. Branch lines of the Fremont, Elkhorn & Missouri Valley, as well as the Burlington, were extended to mines near Ruby Basin, Bald Mountain, Portland, Crown Hill, and Spearfish in the northern Hills. By early October 1891, the Burlington and Missouri

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Railroad rolled north into Custer from Minnekahta, before continuing further north to Hill City. In 1899, the Burlington constructed a branch line to Keystone from Hill City, in the eastern Black Hills.²⁵ By this time, stagecoaches and freight wagons had all but disappeared from the Black Hills landscape, with only a few local stage runs continuing until 1913.²⁶

The export of farm and ranch products from the Black Hills by railroad resulted in a moderation of agricultural prices within the Hills. It also tended to moderate fluctuations in the general Black Hills economy. Agriculture served in large part to both buoy and ballast what otherwise would have been a Titanic (and, therefore, unstable) economy. Mining was clearly no longer the region's sole revenue generator.

Fluctuating Cycles in Agriculture

The boom in farming in the Black Hills and throughout Dakota Territory continued until 1887. In 1886-1887, a widespread and prolonged drought set in, continuing in some sections until 1897. Deficient rainfall across most of South Dakota caused an almost total failure of crops. Another severe drought in 1893 nearly drove farmers away from the Custer area. The September 16, 1893 issue of the *Custer Weekly Chronicle* painted a dismal picture.

The past summer season, one of the driest in the history of the country, has made it apparent that unless something is done to increase the water supply the discouraged ranchers and farmers will dissent [*sic*] their lands and homes for some other locality. . . . Irrigation is all right and a grand success as long as there is plenty of running water.²⁷

Drought and the national economic panic of 1893 converged to produce the "great Dakota bust." Farm failures were compounded by

²⁵ Cleophas C. O'Hara, *The Mineral Wealth of the Black Hills* (Rapid City: South Dakota School of Mines, Bulletin No. 6, 1902), 19-20. Also see Bob Lee, "It Started with (Mining) Boom," in *Gold Rush: The Black Hills Story*, compiled by John McDermott (Pierre, South Dakota Historical Society Press, 2001), 91-92; also in *South Dakota History*, vol. 31, Nos 3 & 4, Fall/Winter 2001, 269.

²⁶ Mills, *Making the Grade*, 55-56; Jessie Sundstrom and Linea Sundstrom, "Transportation and Communication," *Black Hills National Forest Cultural Resources Survey* (Custer: Black Hills National Forest, 1996), 5c-6—5c-10.

²⁷ "Conquer the Drought," *Custer Weekly Chronicle*, September 16, 1893.

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newcomers' unfamiliarity with more drought-resistant crop varieties and tillage techniques adapted to the heavy clay soils west of the Missouri River. During the severe drought, it became abundantly clear that 640-acre homesteads were too small to support a family in the semi-arid Black Hills. A series of wet years beginning in 1898 finally ended the Dakota farming bust.²⁸ Optimistic claims about the prospects of farming in the Black Hills appeared in the 1904 issue of the *Black Hills Illustrated*.

Everything needed from the farm is raised in the Hills, and every product finds a ready market at far better prices than the same brings in any other section of the country. The wealth produced by the farms of the Black Hills has equaled them [Black Hills mines]. To be owner of 160 acres of land in any of the valleys of the Black Hills means that its owner is independent for life.²⁹

In 1900, the U.S. census of Custer County showed how pervasive farming had become in the county. Nearly 400 individuals were listed as "farmer." Another 125 worked as "farm laborer," according to the 1900 census. That year, those involved in farming far exceeded the number of residents engaged in mining. In all of Custer County, only about 25 individuals were listed as miners (working gold-ore, mica, placer, or silver). "Day laborers" working in company mines probably increased this number of those associated with mining by another 30 or so people.³⁰

A second Dakota farming boom began in 1902 and continued until around 1914, the eve of the Great War. During this period, settlement shifted from east of the Mississippi River to lands in western South Dakota that were not included on Indian reservations. An estimated 43,000 bushels of corn, 127,000 bushels of oats, and 25,000 bushels of rye were raised by Black Hills farmers in 1903. The boom was encouraged by passage of the 1902 National (Newlands) Reclamation Act,³¹ aimed at opening up new homestead frontier by constructing federal reclamation dams and reservoirs in eleven semi-arid and arid western states. This legislation brought about

²⁸ Sundstrom and Sundstrom, "Exploration and Settlement," 41-15; Palais, "History of Stock Raising," 78-80.

²⁹ Baldwin, ed., *The Black Hills Illustrated* (Deadwood, SD: Black Hills Mining Men's Association, 1904), 5.

³⁰ "Schedule No. 1—Population," Custer County (Washington, DC: Bureau of Census, June 1900).

³¹ Lawrence Lee, "Newlands Reclamation Act," *The New Encyclopedia of the American West*, edited by Howard R. Lamar (New Haven, CT: Yale University Press, 1998), 784.

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the construction of the Orman Dam in 1908 across the Belle Fourche River in the northern Hills and the resulting irrigation in the north boosted farm production dramatically. In the southern Hills, a dry farming movement based on new experimental scientific methods of cultivation, gave a new wave of homesteaders hope that the periodic problem of drought could be overcome.

Despite the promise of success that science held out, the small number of drought resistant crop varieties, the inadequate size of homesteads in the semi-arid Black Hills, and limited availability of good farmland in 1910 remained persistent unsolved problems in non-irrigated areas of the Black Hills. Neither was irrigation a reliable answer. Notions and early practices of irrigation were often abandoned because of their failure to improve crop production and because of the enormous cost of constructing and maintaining irrigation systems. Passage of federal relief legislation to aid farmers, attempts to create state-owned grain elevators and mills, a rural credit law that gave state loans to farmers, and the organization of local farmers' cooperatives to market farm products in the 1910s all failed to remedy difficulties inherent in dry-land farming without adequate water.

The 1920s and 1930s proved to be the worst years ever for Black Hills farmers. Post-World War I farm prices for produce plummeted, high land prices, and the high cost of operating machinery created a farm depression in the Black Hills and nationwide. Farm foreclosures, bank failures, hunger, and population decline throughout the Midwest became symptomatic of the widespread farm failures. The nationwide economic depression, grasshopper infestations, drought, and severe winters in the early 1930s compounded problems for farmers in the Black Hills and across rural South Dakota. By the end of 1934, thirty-nine percent of the state's residents received some form of public assistance, the highest percentage of any state at any time in U.S. history. In 1935, crops throughout Custer County suffered grave reductions due to severe drought conditions. Wheat production dropped from 137,000 bushels in 1930 to 12,000 bushels in 1935; corn production dropped from 92,966 bushels in 1930 to 2,100 bushels in 1935. That same year, the public domain in South Dakota was closed to homesteading, thus wiping out legislative inducements to settle and farm in the state. Some of Franklin Roosevelt's New Deal relief programs—the Agricultural Adjustment Act (1933) and the Soil Conservation Service (1935)³²—were available to South Dakota farmers, but by the mid-1930s it was clear that experimental dry-land farming in the

³² The Agricultural Adjustment Act was designed to help raise farm prices to pre-World War I levels; the Soil Conservation Service was founded to help prevent erosion through the reseedling of native grasses, among other practices.

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Black Hills and elsewhere was bowing to cattle ranching.³³ Although “cattle raisers” in Custer County were small in number in the 1880 census, over the next two decades they had assumed a visible presence on the landscape and in the agricultural scene in the southern Black Hills.³⁴

Ranching

Early observations of the potential for cattle ranching, like farming, were often positive. In 1857, Lieutenant G. K. Warren and Ferdinand Hayden, who led a government exploring expedition around the southern and eastern sides of the Black Hills, observed that Indians drove herds of buffalo into one of the Black Hills’ open prairies for seasonal fattening on the native grasses before killing them for winter consumption. Lieutenant Colonel George A. Custer, conducting a reconnaissance of the Black Hills in 1874, noted the possibilities of grazing sheep and cattle.³⁵

In 1875, Walter P. Jenney, who led a scientific expedition into the Black Hills with Henry Newton, reported that everyone who had visited the Hills recently was enthusiastic about the “luxuriance of the grass, which in the brightest green spreads over the surface of the parks, hillsides, and valleys.”³⁶ Jenney concluded that the Hills were especially well adapted to stock grazing. Of the southern Black Hills he wrote: “The escort of the expedition remained camped on French Creek for six weeks, and grazing for nearly one thousand horses and mules and three hundred head of cattle was found during that time within a mile and a half of the camp, the grass commencing to grow again as soon as it was eaten off by the stock.”³⁷ Jenney asserted that enough hay could be harvested from wild grasses and cultivated timothy to satisfy demand in the Black Hills for twenty years. “The best localities for hay are in the south-eastern part of the Hills, on Amphibious, French, Spring, and Rapid Creeks.”³⁸

The first actual ranching operation in the French Creek area predated the gold rush stampede. In the early 1870s, Nicholas and Antoine Janis established a cattle ranch in the vicinity of their old fur trading post,

³³ Brooks and Jacon, “Homesteading and Agricultural Development,” 27-29; Sundstrom and Sundstrom, “Exploration and Settlement,” 41-16; Palais, “History of Stock Raising,” 89-91, 100-105.

³⁴ “Schedule No. 1—Inhabitants of Custer City and County,” Territory of Dakota, June 1880.

³⁵ Palais, “History of Stock Raising,” 3-4.

³⁶ Quoted in Palais, “History of Stock Raising,” 4.

³⁷ Quoted in Palais, “History of Stock Raising,” 5.

³⁸ Quoted in Palais, “History of Stock Raising,” 5.

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near the future site of Custer City.³⁹ This ranch was soon abandoned, and the early cattle ranches of the mid-1870s were stocked with work animals that had freighted gold-seekers' supplies into the Hills. In the spring of 1876, M. V. Boughton "attempted to establish a ranch in the parks on lower French Creek."⁴⁰ After the 1877 treaty with the Sioux that legally transferred the Black Hills to Euro-Americans, many stockmen established ranches in the Hills. Beginning in the 1880s, stockmen took up much of the choice land in the southern Black Hills. As early as late 1879, Custer County had 8,629 head of cattle and 325 horses, far more than any other Black Hills country, after several large companies drove their herds into the Hills.⁴¹

Large cattle companies, financed by capital from England, Scotland, and the eastern United States, dominated cattle ranching in western South Dakota. Cattle were driven into the Black Hills for fattening before being removed for slaughter. Many large cattle outfits were headquartered in Wyoming and Nebraska, with satellite operations near Custer. During 1882, over 100,000 cattle were driven into the Hills from Texas and began to spread over the entire region. The following year, more than 250,000 Texas cattle were driven into western Dakota Territory. By the end of 1883, the Black Hills region provided forage for a total of around 500,000 cattle and that number jumped to 800,000 by November 1884. (The number of cattle constantly fluctuated since cattle were periodically removed for slaughter.) Open ranges throughout the Hills were now completely stocked, if not overstocked.⁴²

Young New York State politician Theodore Roosevelt, who arrived in Dakota Territory in the fall of 1883 for a buffalo hunt, became one of many easterners to invest in the Dakota cattle industry in its early years of open-range grazing. Enamored with the vigor and romance of hardy outdoor living, Roosevelt purchased the Chimney Butte Ranch (with the brand name of Maltese Cross Ranch) at Wadsworth and at Hawley on the Dakota Badlands. He soon teamed up with two cowmen, who invested Roosevelt's money in thousands of cattle. They maintained the herd for seven years.⁴³ Many years later, Roosevelt's played a significant role in bringing the conservation of natural resources to the Black Hills, through

³⁹ *Ibid.*, 9.

⁴⁰ Fred W. Whitley, "History of Custer City, South Dakota, 1874-1900," *South Dakota Historical Collections* (Pierre: South Dakota Historical Society, 1975), 280.

⁴¹ Palais, "History of Stock Raising," 9-12, 17, 24.

⁴² Brooks and Jacon, *Homesteading and Agricultural Development*, 9; Bernstein, "Ranches of Southwestern Custer County, South Dakota," E-2; Palais, "History of Stock Raising," 33, 35.

⁴³ Hazel Adele Pulling, "History of the Range Cattle Industry of Dakota," *South Dakota Historical Collections, V. d. 20* (Pierre, South Dakota State Historical Society, 1940), 480-81.

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his advocacy of national forests as well as national monuments, around the turn of the nineteenth century.

The great boom in the early 1880s Black Hills cattle ranching was short-lived. By the mid-1880s, severe overstocking and the consequent disappearance of native grasses that once flourished were looming problems, compounded by other cultural and environmental impacts. The increasing number of settlers in the Black Hills began to encroach on cattlemen's water sources. In 1886, extreme drought throughout the West, including the Black Hills, caused prairie fires, which burned grass not already dried out. Steadily declining cattle prices in the Chicago stockyard market, where Black Hills cattle were taken, persuaded many cattlemen to leave their stock on the range. The severe winter of 1886-1887 proved disastrous for the young Black Hills cattle industry. Cattle unable to paw through snow on the open range to find life-sustaining grass drifted before bitter blizzard winds and died by the thousands. At the 1887 spring cattle roundup, the devastation became clear. Rancher Theodore Roosevelt lost more than half of his herd of cattle and sold the rest. As much as 90 percent of herds belonging to some fifty cattle companies had perished.⁴⁴

The terribly tragic and costly winter of 1886-1887 exploded the cattle boom in the Black Hills and brought swift changes to ranching. The harsh weather and collapse of prices in the Chicago cattle market transformed cattle ranching from an adventure into a business that required more thought, planning, and capital. Wire fences went up everywhere as fenced pastures, either purchased or leased, took the place of open range on the public domain. The production of enough hay to sustain cattle through the winter replaced ranchers' sole dependency on the native grasses of the open range. Mowing machines, hay rakes, and ditching tools became as important as the chuck wagon, lariat, and branding iron. Stockmen also began sinking wells and erecting windmills to collect water into troughs, and they bought tracts of land along streams to insure that herds would not go thirsty. Visible signs of this transformation in the cattle industry took form on the landscape as geometric field patterns of non-native grasses sowed and cut annually, wire fencing, and windmills and watering troughs.

Finally, the devastating loss of cattle in the winter of 1886-1887 marked the disappearance of large herds owned by just a few individuals and the appearance of smaller herds and increasing numbers of owners. In place of herds of 10,000 cattle owned by one person were one hundred people who each owned one hundred cattle. This new brand of cattle

⁴⁴ It has been argued that the lack of adequate protection for cattle on the open range, not overstocking, was the primary cause of the calamitous winter of 1881-1887. See Pulling, "History of Range Cattle Industry," 499-510. Brooks and Jacon, *Homesteading and Agricultural Development*, 18; Palais, "History of Stock Raising," 24-40.

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rancher usually lived on his/ her ranch, shipped cattle to outside markets, and bought supplies from local markets, such as Custer City.⁴⁵

The southern Black Hills felt another effect of the killing winter of 1886-1887. Although livestock numbers declined sharply in some Black Hills counties, many stockowners moved their remaining cattle to the more temperate and sheltered areas in the southern Hills. Custer County showed a three-fold jump in the number of cattle, from 5,671 head in 1886 to 16,186 head in 1887. The number of horses also increased to almost 3,000. (The number of cattle in Fall River County, just south of Custer County, also increased slightly.)⁴⁶

The extension of rail lines across the state and into the Black Hills in the mid-1880s and 1890s also contributed to increasing numbers of cattle grazed in Custer County and the Black Hills. In the mid-1880s, Buffalo Gap, southeast of Custer City, and later Belle Fourche, were among the busiest cattle shipping towns in the nation. At the same time, more lands were opened to homesteaders. The population in agricultural areas jumped.

At the end of the 1880s, there were approximately 100,000 head of beef cattle in South Dakota's Black Hills. Over the next few decades, that number grew substantially. At the end of 1903, there were an estimated 300,000 head (in addition to another 100,000 head of sheep, and 9,000 horses) grazing on Black Hills grass. By 1910, the number of cattle in the Black Hills reached around 400,000. The second Dakota agricultural boom of the early 1900s differed from the first boom in the later 1880s. This second boom saw the disappearance of the open range, replaced by fenced pastures. Also, mid-size family ranches became dominant in the Black Hills, replacing the earlier enormous cattle operations overseen by distant owners.⁴⁷ The Stock Raising Homestead Act in the early 1900s, which authorized 640-acre homesteads, further encouraged mid-size cattle ranching.

In the early 1900s, Custer County ranked third in the state for the number of cattle (after Mead and Pennington counties) with 27,437 head. The 1900 census listed about sixty "stock" or "cattle raisers" and another forty to fifty working as "ranch rider," "cowboy," or "stock/ cattle herder."⁴⁸ A 1904 map of the Black Hills published by the Chicago & North-Western Railroad, running from northwest Nebraska through Buffalo Gap, Fairburn, Hermosa, Rapid City, and Sturgis, depicts a proliferation of ranches south and west of Custer in Custer County. A

⁴⁵ Palais, "History of Stock Raising," 40-43.

⁴⁶ Sundstrom and Sundstrom, "Exploration and Settlement," 4a-14.

⁴⁷ Palais, "History of Stock Raising," 48-49; Brooks and Jacon, *Homesteading and Agricultural Development*, 13.

⁴⁸ "Schedule No. 1—Population," June 1900.

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traveler going west from Custer past the “Fourmile” crossroads and approaching Hell Canyon, passed near the Y 4 Ranch, Smith’s Ranch, and Kelly’s Ranch.



Figure 4-2. Ranches in the Jewel Cave vicinity are shown on this map, published by the Chicago and North Western Railway Company in the early 1900s. “The Black Hills Reached Via the North-Western Line,” 1904, South Dakota-Black Hills vertical file, American Heritage Center, University of Wyoming, Laramie.

On roads to the east of Hell Canyon were Ninemile Ranch, Twentymile Ranch, Gurney Ranch, Freeland’s Ranch, and Lindsey’s Ranch. “Belmores Ranch” was located about five miles northwest of Custer.⁴⁹

⁴⁹ Proper names are not always spelled correctly on this map. “The Black Hills Reached via the North-Western Line” map (Chicago: Chicago & North-Western Railway, 1904), “South Dakota-Black Hills” vertical file, American Heritage Center, Laramie, Wyoming.

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In the early twentieth century, Custer County ranches in the vicinity of Jewel Cave had a characteristic form and appearance on the landscape. Typically, each ranch had a main residence constructed of one or more of a variety of materials, along with a root cellar, barns and/or sheds used for livestock shelter, a building to store a carriage or wagon, a bunkhouse, privies, cisterns, and sometimes granaries, an ice house, and a tack room. Wooden corrals linked many of the various outbuildings. Electricity often did not reach ranches in rural Custer County until the late 1950s; telephones arrived even later in the 1970s. Poles for these wires were late additions to the ranching cultural landscape.⁵⁰

Cattle ranching continued to expand in Custer County after World War I. In 1920, there were 30,230 cattle, valued at nearly \$1,500,000 in Custer County, which then ranked fourth in the state for number of cattle. By 1935, the production of livestock had become the most important agricultural activity in Custer County and four-fifths of all the land in farms and ranches in the county were used for grazing.⁵¹

Cattle were not the only livestock grazing in Custer County. Sheep ranching, like cattle ranching, had achieved considerable importance in Custer County before the disastrous winter of 1886-1887. In the mid-1880s, Custer County reported nearly 7,000 head of sheep (as compared to around 5,700 cattle in 1886) and ranked second (after Lawrence County) among Black Hills counties in the number of sheep on the range. After the winter of 1886-1887, the number of sheep in Custer County decreased substantially. The Belle Fourche, Rapid City, and Edgemont areas emerged as the greatest sheep and wool centers in South Dakota in the early 1900s. By 1920, Custer County, with 5,200 head of sheep, ranked far below Butte County's (Belle Fourche area) 120,000 sheep. Custer County, at that time, had only one-sixth the number of sheep as cattle. Drought in the mid-1930s reduced the number of sheep in all of South Dakota, including Custer County.⁵²

Rancher Felix Michaud

Felix Michaud, who became intimately associated with Jewel Cave, was a rancher in the southern Black Hills. In the 1880s, Michaud worked with local resident Thomas Bellemare, a nearby horse rancher. Bellemare and his wife, a native of St. Anne, Canada, came to a ranch on Lightning Creek ten miles west of Custer in 1882.

⁵⁰ Bernstein, "Ranches of Southwestern Custer County," F-3.

⁵¹ Palais, "History of Stock Raising," 51-52, 60.

⁵² Palais, "History of Stock Raising," 53-61.

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Mrs. Bellemare's chronic lung problems prompted their move (and caused her death in 1901 at age fifty-five).⁵³

At that time, Felix Michaud, perhaps in partnership with Thomas Bellemare, owned a livery stable in Custer. Michaud is listed in the 1880 US census as a liveryman in Custer City (as noted in the previous chapter).



Figure 4-3. Edward Michaud, oldest brother of Frank and Albert Michaud, apparently lived in the southern Black Hills for a brief time in the late 1800s, before moving to Terrace, British Columbia, ninety miles each of Prince Rupert at the mouth of the Skeena River.
Courtesy of Mrs. Ira Michaud, Billings, Montana.

(Jay D. Hatfield later reported that, in the summer of 1895 when he was twelve, he stayed with Felix Michaud, who let him ride his "good old saddle horse to Custer for mail" and supplies. Jay reported that he rode the horse "to [a] large livery stable," which may have been the one owned by Felix.)⁵⁴

As Felix Michaud became settled in the Custer community and his children reached young adulthood back in the Fort Collins, Colorado, area, he may have invited them and other family members to visit and even join him in the southern Black Hills. Jay Hatfield, who camped with his father near Felix's cabin on Lightning Creek in 1895, later recalled meeting a relative of Felix's, purportedly his brother, John, during that summer.⁵⁵ (Ira Michaud, Felix

⁵³ There is disagreement about the location of the Bellemare Ranch. Mrs. Thomas Bellemare's obituary, dated June 8, 1901, notes that the Bellemares lived on a ranch ten miles east of Custer, from their arrival in the southern Black Hills in 1882 until at least Mrs. Bellemare's death in 1901. A 1904 map of the Black Hills shows the "Belmores" Ranch, presumably the Bellemare's Ranch, several miles west and slightly north of Custer. A Michaud family account claims that the Bellemare Ranch was located on Lightning Creek about ten miles west of Custer. "Death of Mrs. Thomas Bellemare," *Custer Weekly Chronicle*, June 8, 1901; "Michauds, Rileys 'Come Home' for Family Reunion," *Custer County Chronicle*, September 8, 2004; "The Black Hills Reached Via the North-Western Line," Chicago, IL: Chicago & North-Western Railway, 1904.

⁵⁴ "Michauds, Rileys 'Come Home' for Family Reunion," *Custer County Chronicle*, September 8, 2004; Jay D. Hatfield, letter to Ira Michaud, January 12, 1971, Nettie Michaud and Monica Michaud Weldon Personal Papers.

⁵⁵ Alex Mitich, "Jay D. Hatfield—Pioneer," *Bits and Pieces*, March-April 1971, 4.

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Michaud's grandson, who later recorded some of the Michaud family history, said he had never known of a John Michaud.⁵⁶⁾

Edward F. Michaud, Felix's oldest son, apparently lived in Custer County for a period before the late 1890s. (Edward's obituary, published in the *Custer Weekly Chronicle* many years later, noted that he had been a "former Custer County resident" and that his death was a shock to "his relatives and friends in the district.")⁵⁷ It has been speculated that Felix's sons Frank and, possibly, Albert also came to Custer County sometime in the 1890s.⁵⁸ Their initial visit(s) may have been only brief.

Harvesting Timber

Harvesting timber became another activity that made the transition from merely supporting mining to becoming a regional industry with exports out of the Black Hills. Logging, like harvesting crops, was pursued by Euro-American newcomers early on.

Early on, Euro-American visitors recognized the economic value and abundance of timber in Black Hills forests. Ferdinand Hayden, leading a scientific expedition with W. F. Reynolds in the northern Black Hills in 1859-1860, observed "that at least one-third of this area, about 2,000 square miles or 1,280,000 acres, is covered with excellent pine timber. . . . The Black Hills," he predicted, "contain an inexhaustible quantity of the finest timber, mostly pine, which will doubtless remain undisturbed for many years to come."⁵⁹ Lieutenant Colonel George Custer, on his expedition through the Black Hills in 1874, also commented on the great abundance

⁵⁶ In a letter to Alex Mitich, Ira Michaud wrote: "I have listened to much talk over the years and in recent times have done considerable research regarding the Michaud family tree and no where was there any mention of John Michaud, who was a brother of Felix Michaud." Ira Michaud, letter to Alex Mitich, December 20, 1970, Archives (JECA 1686), Mt. Rushmore National Memorial

⁵⁷ "Former Custer County Resident Passes Away," *Custer Weekly Chronicle*, July 12, 1928.

⁵⁸ Ira Michaud, transcribed tape-recorded remembrances, August 15, 1989; "Michauds, Rileys 'Come Home' for Family Reunion," *Custer County Chronicle*, September 8, 2004. Ira Michaud, "Jewel Cave: What I Have Heard & Seen," December 1970; Ira Michaud, transcript of tape-recorded remembrances, August 15, 1989; both in Library, Jewel Cave National Monument. Also see "Michauds, Rileys 'Come Home' for Family Reunion," *Custer County Chronicle*, September 8, 2004. These two accounts by Ira Michaud and the one by Nettie Michaud, his wife, and his daughter Monica Michaud Weldon disagree on the date that the Michaud brothers arrived at Jewel Cave.

⁵⁹ Quoted in J. H. Triggs, *History of Cheyenne and Northern Wyoming, Embracing the Gold Fields of the Black Hills* (Omaha, NE: J. H. Triggs, 1876), 49, 50.

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and the commercial value of timber “The pine is of suitable dimensions for being worked into lumber, and is met with in great abundance on every hillside.”⁶⁰

After the initial influx of gold miners, visitors and promoters continued to note the volume and the economic value of Black Hills forests. “It is not in minerals alone that the region known as the ‘Black Hills’ is prolific,” Charles Collins asserted in his 1878 *History and Directory of the Black Hills*. “Forests of white pine, of a quality far superior to those of Wisconsin, and in quantities sufficient to answer the wants of the people of this country for ages to come, is easy of access.”⁶¹ Seventeen years later in 1895, Peter Rosen made similar glowing reports of the quantity and quality of Black Hills timber. “The density of the forests clothing the hill-sides have, from their somber hue when viewed from a distance, given the name to this region, the ‘Black Hills.’ . . . The pine forest cover so extensive an area and will yield so large a proportion of the timber that all the other trees [black and white spruce, burr oak, white elm, and aspen] combined may be neglected in comparison.” Rosen also described the adequate size and distribution of white pine in the Black Hills.⁶²

At the turn of the nineteenth century, the U.S. Geological Survey (USGS) reported on the distribution and character of forests in the Black Hills. Large areas are densely timbered, principally with yellow pine (*Pinus ponderosa*). “The large pine timber . . . average[s] not over 80 feet with an average diameter of about 20 inches.” This so-called “Class one” timber was found on the divide west of Spearfish Canyon, on Box Elder Creek, the head of Spring Creek, and on Soldier, Cold Springs, and Sand creeks. “Class two” timber, averaging 62 feet high and standing in less dense forests than Class one, covered the greatest portion of the Black Hills, according to the USGS report. “Class three” timber, occupying the ridges and steep slopes of the Hills, was shorter than Class two and only 14 to 17 inches in diameter.⁶³

⁶⁰ *Ibid.*, 50.

⁶¹ Charles Collins, *Collins' History and Directory of the Black Hills* (Central City, Dakota Territory: Charles Collins, 1878), 16.

⁶² Peter Rosen, *Pa-ha-sa-pah, or the Black Hills of South Dakota: A Complete History* (St. Louis: Nixon-Jones Printing Co., 1895), 607, 608-609.

⁶³ Nelson Horatio Darton, “Preliminary Description of the Geology and Water Resources of the Southern Half of the Black Hills and Adjoining Regions in South Dakota and Wyoming,” *Annual Report of the Interior for the Fiscal Year Ended June 30, 1900, Twenty-First Annual Report of the United States Geological Survey, Part IV* (Washington, DC: Government Printing Office, 597-98).

Fires in the Forest

Although apparently plentiful and inexhaustible, the Black Hills forests, in the late 1800s, began to show signs of damage and depletion by fire. In 1895, Peter Rosen wrote of the absence of forests in certain parklands and valleys in the Hills. Extensive forest fires, he observed, had destroyed timber over considerable areas, leaving them “destitute of trees.” Rosen wrote, “Scarcely a living tree is to be seen for miles around Custer’s Peak, in the northern Hills, and along the limestone divide and in the central portion of the Hills.”⁶⁴

Although disturbing to contemporary observers, the loss of forests to fire was a natural and not uncommon occurrence in the Black Hills before humans suppressed fires. In the southern Hills, fires burned naturally every few years. Various scientific studies conducted to determine the frequency of fires in the Black Hills suggests that fires before 1770 burned a particular stand of timber slightly less often (an average of every twenty-seven years) than fires between 1770 and 1820, when fire occurred every fourteen years. Thus, every century, a particular stand of timber burned five or six times. Most of these frequent surface fires were of low intensity and they primarily burned debris on the forest floor. Since fires have been actually suppressed on public land since the early 1900s, naturally occurring fires have greatly diminished in number and increased in intensity.⁶⁵

Landscapes of Diversifying Uses

As miners, farmers, and ranchers settled and established roots in the southern Black Hills, they left a succession of visible imprints on the landscape. The open park-like valley floors and pine-covered slopes of the southern Black Hills changed from an environment of abundant native grasses and pine forests to grazed, fenced, and cultivated valleys and forests with a dry open floor. Throughout the Black Hills, newcomers at first constructed small rudimentary shelters usually of log, easily harvestable from the pine forests covering much of the Black Hills. Small logs were also used to build furniture and to enclose cultivated fields to keep out foraging animals. More trees were cut and boards hewed to build more substantial houses for the miners, teamsters, and eventually railroaders. Even more trees were cut and more boards hewed to build restaurants for

⁶⁴ Rosen, *Pa-ha-sa-pah, or the Black Hills of South Dakota*, 608-609.

⁶⁵ Edward Raventon, *Island in the Plains: A Black Hills Natural History* (Boulder: Johnson books, 1994), 119-37.

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the settlers, dry good stores to clothe them, saloons to entertain them, and churches to offer them comfort. When the trees ran out in one particular area, the portable sawmill was yoked to oxen and dragged to another tree stand. Earth was also moved in small and large ways. Rock and dirt from small exploration holes was piled up. At deep mine shafts it cascaded down hillsides; the valleys between mines and mills were strung with rail and wagon roads.

Native vegetation was replaced by non-native plants cultivated to feed the miners, farmers, teamsters, and merchants or to feed the cattle that fed the miners, farmers, teamsters, and merchants. Indigenous fauna competed with domestic cattle for food and water. Streams clouded with mining silt were diverted from flume to flume, altering stream bank microecosystems by killing the native plants and encouraging the alien plants transported by prospector's boots. And over all, a pall of wood smoke hovered.

In some respects, Euro-Americans in the Black Hills continued some of the same endeavors that had been pursued for centuries by Native Americans in the region. The newcomers logged (but for gable-roofed structures rather than tepees); they hunted mammals (also for food); they gathered plants growing naturally or cultivated; and they gathered minerals from the earth (but for gold rather than projectile points). Euro-Americans, however, brought with them an entirely different view of their relationship with the environment—one that embodied concepts of ownership and intensive use of natural materials for agricultural and industrial purposes—tools and technology that greatly impacted the environment over time, and a sedentary non-nomadic life, which as the numbers of people grew, created all kinds of imprints on the landscape. The arrival of Euro-Americans in the Black Hills and their decision to establish roots—agricultural, industrial, commercial, social, political, and religious—began a sequence of endless changes, some easily discernable and others invisible, that altered the biological environment and cultural landscape in new ways.