Contents

The San Luis Valley

Following the course of the Rio Grande, thousands of birds, including these sandhill cranes, migrate through the San Luis Valley each spring and autumn.

Chapter I

"A Most Beautiful Inland Prospect"

After a bad day's march, through snow some places three feet deep, we struck on a brook which led west, which I followed down and shortly came to a small run, running west. . . .

Followed down the ravine and discovered after some time that there had been a road cut out, and on many trees were various hieroglyphics painted. After marching some miles we discovered through the lengthy vista at a distance another chain of mountains and nearer by at the foot of the White Mountains, which we were descending, sandy hills. We marched on [to] the outlet of the mountains and left the sandy desert to our right. . . . When we encamped I ascended one of the highest hills of sand and with my glass could discover a large river flowing nearly north by west and south by east through the plain which came out of the third chain of mountains. . . . The prairie between . . . bore nearly north and south. The sand hills extended up and down at the foot of the White Mountains . . . and appeared to be about five miles in width. Their appearance was exactly that of the sea in a storm, except as to color, not the least sign of vegetation existing thereon. . . .

We marched obliquely to a copse of woods which made down a considerable distance from the mountains. . . . We marched hard and arrived in the evening on the banks of the Rio del Norte. . . .

> *As there was no timber here we determined on descending until we found timber. We descended thirteen miles when we met a large west branch into the main stream, up which about five miles we took up our station. . . .*
>
> *We ascended a high hill which lay south of our camp, from whence we had a view of all the prairie and rivers to the north of us. It was at the same time one of the most beautiful and sublime inland prospects ever presented to the eyes of man. . . .*
>
> *The main river, bursting out of the western mountains and meeting from the northeast a large branch which divides the chain of mountains, proceeds down the prairie, making many large and beautiful islands, one of which I judged contains 100,000 acres of land, all meadow ground, covered with innumerable herds of deer. . . .*
>
> *The great and lofty mountains, covered with eternal snows, seemed to surround the luxuriant vale, crowned with perennial flowers, like a terrestrial paradise, shut out from the view of man.*[1]

Lieutenant Zebulon Montgomery Pike wrote this first English description of the San Luis Valley in south-central Colorado in 1807. Despite the intrusions of man's handiworks since then, this intermontane basin remains a "terrestrial paradise." The great sweep of the valley shimmers beneath its soaring rim of peaks, the over-all magnitude of the scene bestowing a sense of solidity to its mystic beauty.

Pike's first view was from Medano Pass in the Sangre de Cristo Range. His midwinter crossing followed a well-worn trail used by Indians and Spaniards of Nuevo Mexico to enter and to leave the valley.

The San Luis Valley is larger than Colorado's three other great intermontane basins—North Park, Middle Park, and South Park, all lying west of the Front Range. The elliptically shaped San Luis Valley, at an elevation of 7,000 to 8,000 feet above sea level, stretches its ample girth approximately one hundred miles from north to south and sixty-five miles from east to west.[2] The three other valleys are surrounded entirely by mountains, but this southernmost one is not. Its distinct northern limit is the meeting of the Sangre de Cristo and San Juan mountain ranges; the Sangre de Cristos form the eastern border, and the San Juans form the western; but the San Luis Valley has no definite southern limit. The most convenient demarcations on the south are Ute Peak and San Antonio Mountain, both rising just below the Colorado–New Mexico state line and serving as large,

round gateposts for the valley. Beyond them lie New Mexico's Sunshine Valley and the Taos Plateau.

The outline of the San Luis Valley resembles an irregular, inverted horseshoe or Indian *najahe* design. The rim of the mountains is studded with several 13,000- and 14,000-foot summits, of which Blanca Peak is the highest at 14,343 feet. These mountains forming the rim are divided by passes that provide routes in and out of the valley. The main Sangre de Cristo Range is separated from a southern branch, the Culebra Mountains, by Sangre de Cristo Creek and La Veta Pass. Through this route the prairies of eastern Colorado can be reached. In the Culebra Mountains is San Francisco Pass, a high route to New Mexico's Cimarron country. In the northern Sangre de Cristos are Mosca Pass, leading to the Huerfano River; Medano and Music Passes to the Wet Mountain Valley; and Hayden Pass to the Arkansas River. This northern group of the Sangre de Cristos, only ten to twenty miles wide in places but rising a mile or more above the valley floor, was Pike's "White Mountains."

The Sangre de Cristos and the San Juans meet at Poncha Pass, the main gateway to the upper Arkansas Valley. Although the latter mountains form the divide between the Pacific and Atlantic watersheds, the portions of the range that abut the valley are only 8,000 to 10,000 feet above sea level and are much less rugged in appearance than the peaks on the east side of the valley. Subgroups of the San Juan Range, which extends west and southwest tier on tier, are divided along the valley by three principal passages. Between the Cochetopa Hills to the north and La Garita Mountains lie Saguache Creek and Cochetopa Pass to the Gunnison country.[3] Midway down the west side is the Rio Grande, the major river of the San Luis Valley, with three forks forming its headwaters high in the Continental Divide; via these headwaters is reached southwestern Colorado. Farther south along the mountains is Cumbres Pass, which leads to the regions of the Chama and San Juan rivers. And through the great gateway on the south, the Rio Grande leaves the valley, tracing an ancient route to New Mexico and Old Mexico, and ending its career finally in the Gulf of Mexico.

The valley that lies within this mountainous frame is not a featureless monotone. In fact, the valley consists of four geologic and geographic divisions—the Alamosa Basin, the San Luis Hills, the

Costilla Plains, and the Culebra Re-entrant.[4] The Alamosa Basin, occupying the northern and west-central parts of the valley, is the "prairie" that Pike described. It slopes gently inward toward the east side from the Rio Grande's alluvial fan, a build-up of deposits left by the stream. Sands, gravels, and volcanic debris from stream and mountain erosion have filled some parts of the Alamosa Basin to depths of 4,000 to 7,000 feet through millions of years to create the nearly level surface seen in this portion of the valley today.

The "sandy desert" that Pike's party passed is at a point in the Alamosa Basin where Medano Creek flows from the Sangre de Cristos just north of Blanca Peak. This giant sandpile runs about ten miles along the mountains and rises to nearly seven hundred feet above the valley's floor. These are the highest inland dunes in the United States.[5]

The San Luis Valley's dunes are the highest inland sand accumulations in the United States.

About such a setting legends cluster. Entire flocks of sheep, together with their shepherds, are said to have been swallowed up in the dunes. Wagons with their mule teams have suffered the same

A national monument was established in 1932 to protect the dunes. Colorado Department of Highways photo.

mysterious fate. And horses with webbed feet have been seen racing over the sculptured slopes when the moon is full.

But dunes are made of more earthly stuff, too—grains of sand eroded from igneous and metamorphic rock of the Sangre de Cristos and from volcanic rock of the San Juans. When strong, southwesterly winds blow across the dry valley—and they frequently do—dust storms gather in the basin and hurl their burden against the Sangre de Cristos, piling up loose sand in the trap created by Medano Pass.[6]

Near the town of Blanca, only a short distance south of the sand dunes, barren hills and mesas, capped with lava, appear and extend southwest nearly to Antonito. These are the San Luis Hills. Volcanic in origin, they are 500 to 1,000 feet higher than the valley floor.[7] The largest of the mesas is called Flat Top while the highest of the hills are called the Pinyon Hills, though most of the trees were cut long ago. Between the hills and the San Juan Mountains on the west, the Alamosa Basin reaches south to the Taos Plateau.

East of the San Luis Hills are the Costilla Plains. Bound on the east by the foothills of the Culebra Mountains, the Costilla Plains consist of a deposit-filled strip running south from Blanca Peak into New Mexico.

The fourth division of the valley, the Culebra Re-entrant, lies between the Costilla Plains and the Culebra Mountains in a curve where the mountains swing back to the east. Because this area was formed earlier, it has eroded into a more diversified topography than the Alamosa Basin or the Costilla Plains. In the Culebra Re-entrant are foothills forested with pinyon and juniper. In the southern part San Pedro Mesa rises 5,000 feet, and two smaller but prominent mesas occur southeast of Fort Garland. All three are capped with basalt from a lava flow.[8]

The valley itself was created by faulting, or fracturing, of the earth's crust, which took place in a zone running from southern New Mexico into central Colorado. Although sediment has buried the evidence deeply, the valley was caused by a down-dropped block between uplifted mountain ranges. The slight slope of the valley floor to the east results from an eastward tilt of the faulted block. More recent than the faulting was volcanic action in and adjacent to the valley.[9] La Garita Mountains, San Antonio Mountain, Ute Peak, and the San Luis Hills are conspicuous examples of volcanic formation.[10]

Water in the form of streams, wells, and springs is of great importance to the San Luis Valley. In its southern half a few year-round streams join the Rio Grande. Among these are Rock Creek, Alamosa River, La Jara Creek, the Conejos River, and San Antonio River from the west; and Trinchera, Culebra, and Costilla on the east. The Rio Grande and all of these tributaries have been used extensively for irrigation.

From the north no tributary reaches the Rio Grande, because the entire upper portion of the valley is a closed basin from which no water drains except by seepage. The streams which do flow down from the surrounding mountains disappear into the gravels and sands of the valley floor. Even Saguache Creek, draining an extensive area of La Garita Mountains, becomes lost in the sands of the north end of the valley. San Luis Creek, with numerous intermittent tributaries from the Sangre de Cristos and Poncha Pass, occupies a seemingly predictable course as it flows south toward the San Luis Lakes, but the water frequently disappears before reaching this goal.

Surprisingly, the San Luis Lakes, just west of the dunes, remain full, even when often feeder streams and other nearby ponds dry up after their occasional appearances. This puzzling phenomenon is due to the location of the San Luis Lakes at the lowest point in the closed basin, in what is called a sump, fed by seepage and underground reservoirs of water.

Other areas of the north end of the valley appear to be equally out of place, being wet and marshy. This condition is caused by the water table's closeness to the surface of the land. When the valley's streams sink into the porous floor, seepage does not continue downward unobstructed but is impounded by relatively impermeable layers of sediment. This water table seeps up in many areas and causes serious problems for agriculture, since large portions of land are damaged by alkali and hardpan as a result.

In addition to these naturally wet spots, hundreds of ponds mark the locations of artesian wells, primarily in the north end of the valley but in the south end also. Beneath the upper water table and sedimentary beds is a much deeper and larger reservoir, contained by harder, less porous rock than in the case of the upper water table. During the late 1800s and early 1900s scores of artesian wells were drilled into this deep aquifer for irrigation and domestic purposes. Unfortunately, this added surface water compounded soil problems in a number of localities where the water table normally was too high.[11]

A third source of surface water other than from streams is from natural springs, which abound in the valley, most seeming to occur where the water table abuts hard, volcanic formations. Among these are Los Ojos, or McIntire's Springs, near which Pike built his stockade because the warm spring kept the Conejos River thawed even in February; Russell Springs near La Garita Mountains and south of the town of Saguache; Hunt Springs northeast of the same town; and Medano Springs near the sand dunes. Some were the favored campsites of Indians and, later, of pioneers; some have provided year-round lakes for cattle ranches; and some were developed into health and recreational resorts, a few of which still operate from time to time. One of these, Valley View Hot Springs east of Villa Grove, was a popular attraction a century ago.

In a region with low quantities of precipitation—less than ten inches annually—these underground waters and the mountain streams are

essential to give life to the valley. Pike's description of a "luxuriant vale" borders on literary hyperbole, for the "perennial flowers" which "crowned the valley," according to his pen, were merely the dried flower heads of rabbitbrush. The potential was there, though, to bring forth abundant crops when the land was irrigated. And the mountainsides were cloaked with evergreens then as now, while water-bearing clouds veiled snowpacked summits.

Earth, sky, water, and life—ever becoming, ever changing in time and in space, without beginning and without end.

Numerous cliffs and outcrops around the San Luis Valley bear pictographs and petroglyphs recorded by prehistoric and historic Indians. The presence of mounted warriors in this scene indicates events related to a historic tribe, perhaps Comanche.