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Chapter 4.

Summary of Spanish, Mexican, and Early American Exploration in the Borderlands

Introduction

The Hispanic period of Arizona and New Mexico spans roughly 320 years beginning in the mid-16th century with the arrival of Spanish explorers and culminating with the ratification of the Gadsden Purchase in June1854. This paper provides an overview of exploration, settlement and land use within and adjacent to the Borderlands during this time. From a review of historic documents, I will provide a general history and present information on Borderland ecology. The earliest descriptions of the environment are often brief and anecdotal, but of sufficient detail, in some instances, to permit comparison and contrast with present landscapes

Documentary Resources

Selected primary and secondary sources of historic information include personal narratives and diaries, letters, and governmental correspondence. Many of the sources are English translations of original Spanish text. Because Spanish authorities were meticulous record keepers, we are fortunate to have many documents related to the study area. The most useful documents are field journals kept by officers during various offensive campaigns against the Apache in the region of the Gila River. For example, during the 1780 campaign, Don Teodoro de Croix required field captains such as Don Joseph Antonio Vildosola to present not only captives, but "... the account of the rations which may be supplied according to the Regulation and a faithful diary of the campaign..." (Thomas 1932: 192). Diaries similar to Vildosola's are brief but provide useful insight into the Borderlands region between the years 1695 and 1786. Dating between 1846 and 1853, the early diaries of George Cooke (1964) and Boundary Commissioner John Russell Bartlett (1854) also provide useful information about the terrain, climate, and impacts of human use.

Other documents reviewed for this summary include cultural resource management reports for Hidalgo County, New Mexico, and Cochise County, Arizona. All pertinent site records for the two counties were provided by the Arizona State Museum, University of Arizona Site and Survey File Office (AZSITE), and the New Mexico Cultural Resource Information System (NMCRIS). An international archival search for pertinent Spanish and Mexican records related to the region in question is beyond the scope of this paper.

The Land

The Borderlands consist of alternating mountain ranges and valleys extending north from the international border that divides the States of Arizona and New Mexico from the Mexican States of Sonora and Chihuahua (fig. 4.1). The Animas Valley of southeastern New Mexico lies in the center of the study area. This valley is bounded on the west by the southern range of the Peloncillo Mountains and on the east by the Animas Mountains. Immediately west of the Peloncillo range is the New Mexico-Arizona state line. Here, the heads of the San Simon and San Bernardino Valleys mark the westernmost extension of

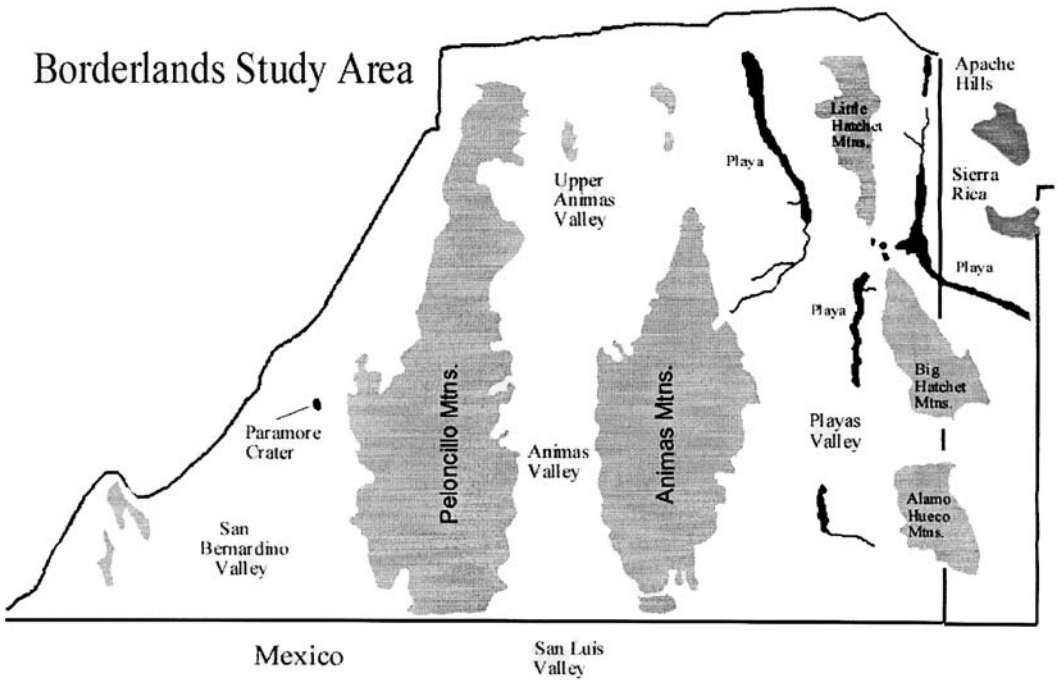

Figure 4.1. Mountain ranges, valleys, and drainage systems of the Borderlands study area.

the study area. East of the Animas range is the Playas Valley and beyond are the Little Hatchet, Hatchet, and Alamo Hueco Mountains.

Elevations within the basins of the San Simon, San Bernardino, Animas, and Las Playas drainages are between 1,200 and 1,600 m (4,000 and 5,200 ft) above sea level. In the Animas Mountains, Animas Peak towers to 2,621 m (8,519 ft) and the highest peak in the Peloncillo Mountains is Black Point at 1,980 m (6,467 ft). The Chiricahua Mountains west of and adjacent to the Borderlands rise to a maximum of 3,070 m (9,976 ft) surpassing both the Peloncillo and Animas Mountains. The Guadalupe Mountains south of the Animas Valley are rough, steep, and broken but do not exceed 2,030 m (6,600 ft).

In New Mexico the Animas watershed drains north into the alkali flats of the Lower Animas Valley. The Playas watershed also extends north and drains into the dry bed of Playas Lake. Both playas become temporary lakes during seasonal flooding. In Arizona, San Simon Creek extends north between the Chiricahua Mountains and the Peloncillo Range and enters the Gila River near Safford, Arizona. The San Bernardino River heads in Arizona; it is the only large watershed in the study area that drains south into Mexico and eventually joins the Rio de Bavispe.

The Peloncillo and Animas ranges of New Mexico have sufficient height and mass to allow annual rains and a light snow pack to accumulate and create temporary high-elevation brooks. In years when precipitation is high, some streams flow into the basins. None of the higher ranges in the borderland nor the Little Hatchet or Hatchet Mountains of southeastern New Mexico have sufficient runoff to produce perennial valley streams. However, boggy seeps and springs are scattered throughout these valleys and along the flanks of most of the mountains. The Chiricahua Mountains on the western edge of the study area have considerable mass and more snowfall than the other ranges. Some perennial streams of the Chiricahua Mountains flow onto the mountain pediment.

History of the Borderlands

Exploration Period: 1534 to 1680

The first Europeans likely to have passed through the region were survivors of the failed Panfilo de Narvaez expedition. On June 17, 1527, Narvaez sailed from Spain with five ships destined for the Rio de Palmas and the Harbor of Panuco on the coast of present-day Texas. Near the end of their transatlantic voyage, tropical storms slowed the progress of the small armada and forced the expedition to reconnoiter in the Caribbean until early 1528. Narvaez set sail for Havana, Cuba, but bad weather forced the armada to the west coast of present-day Florida and, unbeknownst at the time, nearly 600 leagues east

of their original destination. Convinced by his pilot that he was near the harbor of Panuco, Narvaez and 300 men disembarked with supplies and horses and set out overland to explore the region. Some of the ships were ordered to sail west in search of the harbor of Panuco, where they were to wait and eventually meet with Narvaez. From April 15 to May 15, 1528, the expedition explored a considerable area in search of Apalachee, a region that native coastal populations described as a land of considerable agricultural productivity and mineral wealth, but none of these claims materialized. The inhospitable nature of the environment and the lack of cooperation by local tribes exhausted the expedition and they retreated to the coast.

By August 1528, the force was dwindling in size due to sickness and attacks by local tribesmen. Unable to find their ships, the leaders of the expedition voted to leave by sea and set about building five barges. By late September 1528, the expedition sailed west along the coast only to be scattered and beached by storms. Many men survived the landing only to perish on shore from exposure, hunger, and Native American attacks. A handful of survivors were enslaved by indigenous coastal populations and evaded death. After several years of wandering and being traded among various tribes, four of the men, Alvar Nunez Cabeza de Vaca, Andres Dorantes, Alonso del Castillo Maldonado, and Estevanico, were reunited and escaped from their captors in 1534. They made their way to the west coast of Mexico where they were found in 1536 by a small party of Spanish slave hunters.

The route taken by Cabeza de Vaca and his three companions is unknown, but scholars (for example Bancroft 1889; Rodack 1981) argue for a route in northern Mexico. On the other hand, Hallenbeck (1940: 220–234) suggests that the four men made their way to the Rio Grande River where they eventually turned west and, upon reaching the Gila River in New Mexico, traveled south between the Dos Cabezas and Chiricahua Mountains of Arizona, and then through the San Bernardino Valley to the valley of Sonora. In support of Hallenbeck's theory of the route, it is of note that as early 1851, travelers stopped at Ojo de Vaca south of the Mimbres River.

Interest in the unexplored northern regions grew as the story of Cabeza de Vaca's journey spread. The hint of precious metals and reports of large Native American towns set the stage for expeditions into the uncharted country north of Mexico. In 1539, the Spanish viceroy, Don Antonio de Mendoza, picked Marcos de Niza and Onorato to investigate the northern country. Estevanico was selected as their guide because he had traveled as a member of the Cabeza de Vaca party and was familiar with the customs of some northern tribes. This expedition suffered many mishaps, Onorato fell by the wayside with illness, and Estevanico and a number of Native American allies met their demise at Zuni. Fray Marcos, who never entered the Zuni towns, returned to Mexico safely that same year.

Marcos de Niza's glimpse of Cibola encouraged the viceroy, and he mounted a second expedition north in 1540. This expedition, of grand scale, had several hundred participants both of European and Native American descent. Accompanied by Fray Marcos, Francisco Vazquez de Coronado left Mexico City and spent several months on the trail north. Between 1540 and 1542, the expeditionary force had explored a considerable region of what is now Arizona, New Mexico, Texas, Oklahoma, and Kansas (Winship 1896). In addition, Coronado sent a considerable number of messengers and small parties back and forth over the trail between Zuni and Corazones, a small colony established by the expedition in northern Mexico.

The trail taken by Niza in 1539 and the route taken by the Coronado expedition in 1540 to 1542 have been debated for nearly a century and will be debated until physical evidence of the trail is found (Ivey and others 1991). The majority of early scholars such as Bandelier (1892), Winship (1896), Herbert E. Bolton (1930), and many other contemporary scholars, would place the point of entry in the Borderlands at or near the San Pedro River in present-day Arizona. Di Peso (1974), Strout (1958), and to some extent Carroll L. Riley (1975), place the point of entry of both the Marcos de Niza and Coronado expeditions at San Bernardino (fig. 4.2), with the expedition continuing north on San Simon Creek along the west side of the Peloncillo Mountains and eventually east of the chain to the juncture of the Blue and San Francisco Rivers. The 1539 and 1540 routes proposed by Di Peso and others are not widely accepted but should not be ruled out. In support of Di Peso's route, I would also contend that from San Bernardino these expeditions may have veered farther to the east and, after crossing the Gila River, may have followed the west flanks of the Burro and Mogollon Mountains, thereby intersecting the San Francisco River.

The return of Coronado to Mexico in 1542 marks a brief hiatus in documented Spanish exploration north of the present-day international border. It was not until 1580 that there was a renewed interest in colonization and exploration of the Pueblo country. From 1581 to 1582 Francisco de Chamuscado and Friar Agustin Rodriquez visited New Mexico with a small party of soldiers and Native Americans, and Antonio de Espejo

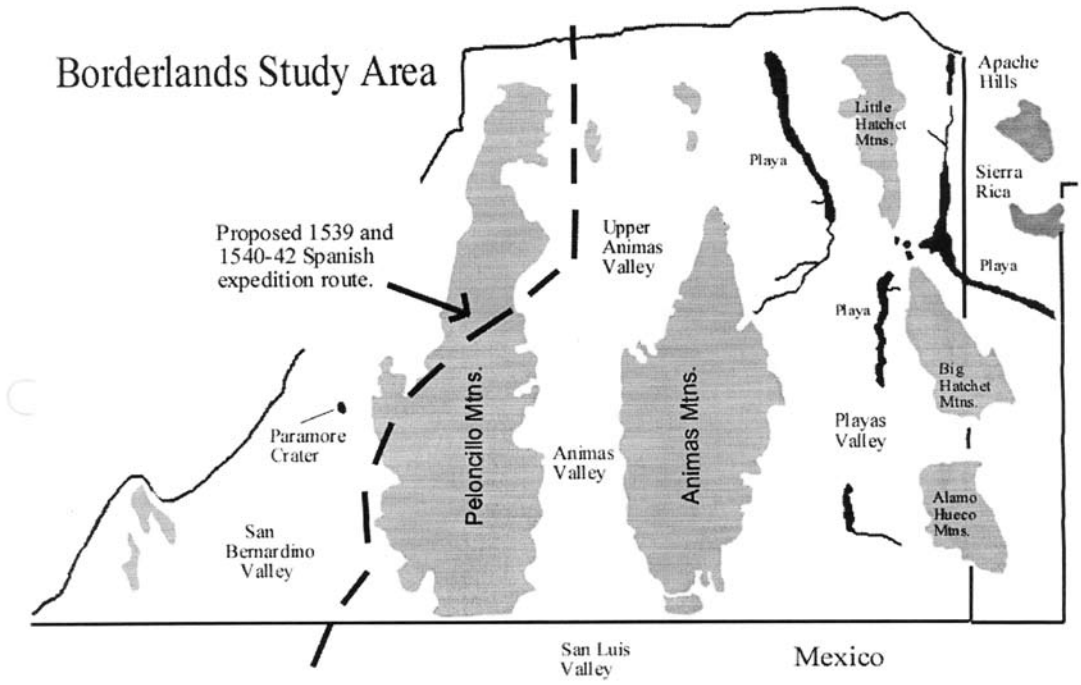

Figure 4.2. Fray Marcos de Niza (1539) and Francisco Vazques de Coronado (1540–1542) followed Native American trails north through Mexico, Arizona, and New Mexico in their search for Cibola. Charles Di Peso (1974) suggests these expeditions passed over the Peloncillo Mountains.

followed shortly in 1582. In 1590, Gaspar Castano de Sosa attempted to place a colony near Santo Domingo in present-day New Mexico but was ordered to withdraw the unauthorized expedition (Beers 1979: 3). In 1598, Spanish settlers under the command of Juan de Onate settled the upper Rio Grande Valley but were forced to flee to El Paso during the Pueblo Revolt of 1680. It was not until 1693 that the Spanish regained a permanent foothold in the Pueblo land as a result of a vigorous campaign by Diego de Vargas.

Although none of the expeditions from 1580 to 1593 passed through the study area, it is probable that the Upper Gila River and Animas region were traversed on occasion by hunters, trappers, prospectors, and Native American traders interested in the natural resources, information, and goods that the indigenous people of the region had to offer.

Spanish Sedentary Period: 1680 to 1821

It was not until the mid- to late-17th century that a Spanish presence was initiated in the study area. In the aftermath of the Pueblo Revolt of 1680, many displaced northern Spanish settlers began to migrate into the Casas Grandes Valley and the region of Janos. From the south, during this same period, settlers were moving steadily north into the river valleys of New Vizcaya and Sonora. As the migration continued, the indigenous population grew less tolerant and hospitable toward the newcomers. Naylor (1969: 11) notes that in 1684 the Suma, Concho, Janos, Jocomes, Mansos, and Apaches revolted. After this date, Native American revolt and short-term uprisings became a fact of life on the frontier of New Mexico, New Vizcaya, and Sonora; but in almost every instance the Spanish regained the upper hand and eventually those in rebellion yielded to Hispanic authority. The Apache, on the other hand, were persistent in their strategies of raiding and warfare, and the Spanish, no matter how hard they tried, could not force them into submission.

The Apache

The ethnography of the Athapaskan-speaking people called Apache has been thoroughly treated elsewhere and is not part of this overview. The historical information below provides a general sense of Borderlands use by Europeans and native peoples who frequented the area during the Hispanic period.

When the Spanish settled the region of Casas Grandes and Janos they clearly recognized a cultural difference between Apache, Suma, Janos, Jocome, and other tribes in that region, but by the early 18th century those Native Americans choosing to live near the missions and presidios were assimilated into the Spanish culture. Those groups refusing indoctrination allied themselves with the Apaches. For instance, a letter written by Captain Juan

Fernandez de la Fuente in 1695 indicates that displaced Suma, Janos, Jocome, Manso, Chinarra, and other Native Americans took shelter with the Apaches of the Gila River region (Naylor and Polzer 1986: 641). In addition "As the Apache gained dominance in the area the Spanish began referring to their allies by the same term....Thus in the west it appears that the remaining Sumas along with the Janos and Jocome merged with the Apache Tribe..." (Naylor 1969: 11).

Today the Apache of this region refer to themselves as Chiricahua, but throughout much of the Hispanic period we see reference to Gilenos, Ojo Caliente, Mimbrenos, and Mogollon Apaches. These bands lived on the banks of the upper Gila River and on the San Francisco and Mimbres Rivers. The permanence of Apache rancherias in the northern river valleys is revealed in three reports. At Zuni, Fray Silvestre Velez de Escalante wrote of a trail discovered from Zuni, New Mexico to Sonora in 1747. He noted that along this trail on the lower San Francisco River, Don Bernrado de Miera saw "... various rancherias of the Apaches who cultivate the valley and with the aid of irrigation, harvest much yellow corn" (Thomas 1932: 155). Thomas (1932: 12) also noted similar evidence of permanent Apache rancherias in his translation of Hugo O'Conor's diary. During O'Conor's campaign against the Apaches in 1775, he crossed the Rio de las Mimbres and found a great number of Apache fields near Picacho de las Mimbres. And finally, Henry Dobyns' (1981: 24) translation of Captain Comaduran's diary of 1830 notes that the Apaches near Pinal Creek and the Gila River "...have planted many fields which their land affords them. They dedicate themselves greatly to cultivation. The headgate they have of stakes and earth diverts an abundance of water."

The north-south orientation of the basin and range country of the Borderlands would have defined the most obvious path for the Apache coming down from the Gila country on raids. Spanish documents of military actions as early as 1650 suggest that the valleys of the San Simon, San Bernardino, Animas, and La Playa were corridors through which raiding parties from the well-watered Gila, San Francisco, and Mimbres Rivers reached the Hispanic frontier.

References throughout the translations by Thomas (1932) suggest many rancherias were located close to Janos and Fronteras between 1680 and 1790. Unfortunately these references provide no details on the nature of the rancherias. The rough terrain of the Chiricahua, Animas, and Peloncillo Mountains provided safety and shelter from the ever-present patrols dispatched from Janos and Fronteras during this period. There is also sufficient documentation to show that the springs and, in some instances, high-elevation perennial streams attracted Apache encampments, but it is not clear from the Spanish record whether these places often referred to as "rancherias" were locations frequented by Apaches prior to Spanish settlement of the frontier. The Chiricahua Apaches today certainly claim these ranges as homelands.

Apache and Euro-American Interaction

Beginning in the 1680s, the Apache staged opportunistic raids into fledgling Spanish communities from El Paso west to the Santa Cruz River. The Spanish settlements south of the Gila and Mimbres rivers bore the brunt of Apache forays. It is likely that in 1684 the Apaches assisted the Suma in burning Nuestra Senora de la Soledad de los Janos, a mission built in 1663.

To protect the settlers, presidios were built in Nueva Vizcaya and in Sonora's Pimaria Alta (Beers 1979; Naylor and Polzer 1986). By 1686 San Felipe y Santiago was established as the presidio for the Janos region, and west of Janos a permanent presidio was established in 1690 in the Cabullona Valley in a place known as Santa Rosa de Corodequaci, which was later referred to as Fronteras. From these presidios and from neighboring hamlets, presidial troops, settlers, and Native American allies waged a general offensive campaign against the Apache and their allies between the mid-17th and early 19th century. After the Mexican Revolution in 1821, patrols from the same presidios continued along the northern frontier. Bartlett (1854: 268) observed 400 Mexican troops at Fronteras preparing a campaign against the Gila Apache in 1851.

Appendix D is an annotated summary of the frequent Spanish offensive campaigns in the Borderlands. Although these were some of the largest campaigns against the Apaches, they were not the only military incursions into the Borderlands. Boundary Commissioner John Russell Bartlett (1854: 295), for example, had a friendly encounter in the Guadalupe Mountains with 200 Mexican troops on patrol from the garrisons of Fronteras in 1851.

San Bernardino Presidio

Between 1766 and 1768 Marques de Rubi examined the frontier from Texas to Altar in Sonora with an eye on the effectiveness of the presidio line. The appalling condition of the presidios, due in part to constant Native American raids, convinced Rubi that the relocation of some presidios would enhance the defense of the province. By Royal Regulation the presidio realignment was authorized September 10, 1772. "To carry out the

royal order, Viceroy Bucareli commissioned Don Hugo O'Conor in 1772. By 1776 this officer, with the rank of Commander Inspector, had decided upon the exact sites and transferred the presidios to their new locations..." (Thomas 1941: 16).

Fronteras, the northeastern-most presidio in Sonora, was one of several outposts inspected by O'Conor and one of the few selected for repositioning. In 1775, the troops of this pueblo moved to the headwaters of the upper San Bernardino River at the present-day international boundary. As will be seen shortly, this was an ill-fated move that had to be corrected a few years later.

Fathers Garces and Juan Diaz first described the San Bernardino settlement in March 1775 as a good spot although with some inconveniences. It had the same number of troops as was assigned to Fronteras, namely, 100 men. It provided 10 men for Buenavista, and another 10 for the pueblo of El Pitic. It had 80 troops in all to protect the pueblos of its neighborhood and to pursue the Apache enemy (Bolton 1930: 285–286).

The realignment was ill conceived, and before long men such as Captain Don Joseph Berroteran and Don Juan Bautista de Anza were recommending that the government reconsider the presidio moves made by O'Conor. In 1776, Don Teodoro de Croix was appointed Commander General of the Interior Province of New Spain, and upon inspecting the frontier, he agreed that the realignment had in some instances made the Spanish defensive posture worse.

In 1777 to1778, Croix inspected the presidio line and observed that after the move of the presidio of Fronteras to the valley of San Bernardino in 1775, it was so far removed from presidios on either side (Janos and Terrenate) that it could neither give nor receive assistance from these places. He further stated (Thomas 1941: 146) that:

> ...when I went through the presidio of San Bernardino, I recognized that from that spot it could neither give nor receive assistance from the presidio of Janos. This contact, always difficult, was closed entirely to impede the ingress of Apaches into New Vizcaya and Sonora. The presidial company itself, reenforced with another flying company, was hardly discharging its obligation to defend the post and the horse herd, or furnishing escort for the mule train for their provisions....The building of the presidio of San Bernardino was just beginning; the works were menaced with ruin and funds consumed.

After his inspection, Croix quickly arranged for the abandonment of the post.

In 1820, Lieutenant Ignacio Perez sought a land grant at San Bernardino that extended a considerable distance into Sonora. James Officer (1987: 106–108) writes: "In May, 1822, Perez paid for the land—more than 73,000 acres—but no formal title was ever issued. To stock his large ranch, Teniente Perez contracted with Father Estelric of the Tumacacori Mission for the purchase of 4,000 cattle." Further archival work might provide information on whether the ranch ever materialized. When the Mormon Battalion passed through San Bernardino 24 years later, it was not occupied. On December 2, 1846, the Mormon Battalion descended Guadalupe Canyon. Cooke (1964: 139) notes:

> ...eight miles brought them into and across wide meadows to the old houses of the rancho of San Bernardino; it is enclosed by a wall with two regular bastions; the spring is fifteen paces in diameter. The soil was thought good, but the grass at the time was poor;...Before this rancho was desolated by Apaches, there were reported to be eighty thousand cattle on it; the Gila was said to be its northern boundary.

On May 21, 1851, members of the Boundary Commission also visited the ruin (Bartlett 1854: 255–256):

> San Bernardino is a collection of adobe buildings in a ruined state, of which nothing but walls remain. One of the buildings was about one hundred feet square, with a court in the center; and adjoining it were others with small apartments....The whole extending over a space of about two acres, was enclosed with a high wall of adobe, with regular bastions for defense. Being elevated some twenty or thirty feet above the valley, this hacienda commanded a fine view of the country around.

Because of the perennial springs, San Bernardino remained an important stop for weary travelers. There are other references to this spot in the diaries of immigrants on their way to California, but Cooke's diary from 1846 and Bartlett's from 1854 are the most explicit descriptions of the springs during the Hispanic period. See Hispanic Arizona 1536–1856 by Officer (1987) for other diary accounts regarding San Bernardino.

Ecology, Landscape, and Colonial/ Mexican Period Use

I begin this section with an overview of early observations made about the Borderlands environment from about the year 1680 through 1853. A general historic sketch is based on several books but, in particular, Thomas (1932, 1941), Cooke (1964), and Bartlett (1854).

Water and Its Influence on Travel

The territory between what is now El Paso, Texas, and Tucson, Arizona, was one of the most troublesome regions to cross prior to the arrival of the railroad in the

early 1880s. The availability of drinking water and good pasture for horses, mules, and oxen was an overriding concern for all who traversed this region. By 1854, the Borderlands had been crossed by many military detachments and by untold numbers of California emigrants. The names of some cienigas and springs appear repeatedly in field journals: San Bernardino, San Simon, Las Ojos de la Hacha (Hatchet); others became well known and influenced common routes of travel and lines of communication. The distances between perennial cienegas and springs were often great, and the reliability of intermediate springs and seeps was tenuous at best depending on the terrain and season of travel. Excerpts from three diaries (Anza, Cooke, and Bartlett) provide interesting insight into the region of the Borderlands and the influence of water on the development of routes for communication and commerce (fig. 4.3). Appendix D has additional information on trails and roads.

On November 9, 1780, Don Juan Bautista de Anza left Santa Fe with nearly 150 troops and as many settlers bound for El Paso. Anza's plan was to caravan down the Rio Grande as far as Fray Cristoval where he and his troops would leave the settlers and turn west to open a route of commerce to Sonora. From the Rio Grande, Anza veered west to the Mimbres River where he hoped to meet with a detachment from Sonora and one from New Vizcaya to assist him in finding a good route southwest. Thirteen leagues below the lower Mimbres River, out of water and not finding the two detachments, Anza notes, "We arrived ...at an arroyo which gave hardly sufficient for our horses. This together with the sorefooted and wearied condition in which I observed the herd, obliged me to seek for it in better known regions. Though at a cost of greater circumlocutions, it saved the expedition" (Thomas 1932: 202).

Anza diverted his troops to the eastern springs of the Sierra de la Hacha north of Janos. South of La Hacha, Anza found the Camino Real running between New Vizcaya and Sonora. Disappointed and well east of his proposed route, Anza later blamed his failure to find a short route to Sonora on the lack of water. During this expedition he followed the Camino Real along the southern boundary of the Borderlands by going over the pass of Guadalupe to San Bernardino and then on to the old site of Las Nutrias. Anza's caravan was plagued by heavy rain and snow from Santa Fe to the Mimbres River but still suffered from lack of water on the plain. Once past this plain he again encountered heavy snow in the Borderlands until he reached his destination, Arispe, Sonora, on December 18, 1780.

In his famous march of 1846 to the Pacific, Philip St. George Cooke lead the Mormon Battalion down the Rio Grande River from Santa Fe and veered to the west near Las Cruces in an attempt to find a direct route to Tucson. Unfortunately, Cooke encountered the same condition that Anza suffered several years earlier. Just below the lower Mimbres River on November 20, 1846, Cooke notes: "The guides had all returned, having found a little water in the end of a ridge, in a south-west course towards San Bernardino a deserted rancho, known only by report. By common consent the certainty of water at that point [thought to be about 70, but really above 100 miles distant] made it an objective point; for all shrink instinctively from entering the vast table land to the west..." (Cooke 1964: 128). Cooke, like Anza, traveled under stormy conditions to the Mimbres, and like Anza, still found the plains west of the Mimbres dry and uninviting. Once over this plain, Cooke's route passed through Las Playas, the Animas Valley, and through the Guadalupe Mountains to San Bernardino. Surface water within the Borderlands was present at every camp between Las Playas and the San Bernardino Valley.

One of the best accounts regarding the seasonal nature of some water supplies is provided by US Boundary Commissioner John Russell Bartlett (1854). In May 1851, Bartlett lead a small expedition from the Santa Rita copper mines near present-day Silver City, New Mexico, to Arispe in the State of Sonora, Mexico. Bartlett's plan was to follow the 1846 trail of Philip St. George Cooke through the Borderlands to the San Pedro River where Bartlett planned to turn south toward Arispe. Water holes described by Cooke were a major factor in Bartlett's direction of travel. Bartlett's party had little trouble in finding water in Las Playas, Animas, and the San Bernardino Valley, but many of the sources noted by Cooke could not be found or were disappointingly dry. Several hours past the ruins of San Bernardino Bartlett (1854: 258) notes:

> We were again doomed.... No water was found. I now hastened back with all speed to Black Water Creek, where the train with the rest of the party had arrived. They were pondering what to do in the dilemma. Their disappointment being no less than my own. We had now come about twenty-two miles from the last water, and nearly forty from our last camping place in the Guadalupe Pass. So confident had we been on leaving San Bernardino that we should find water at this place, if not at two intermediate stations, that we had not taken the trouble to fill our kegs.

The water holes in the hilly country between the San Bernardino Valley and the springs of Agua Prieta noted

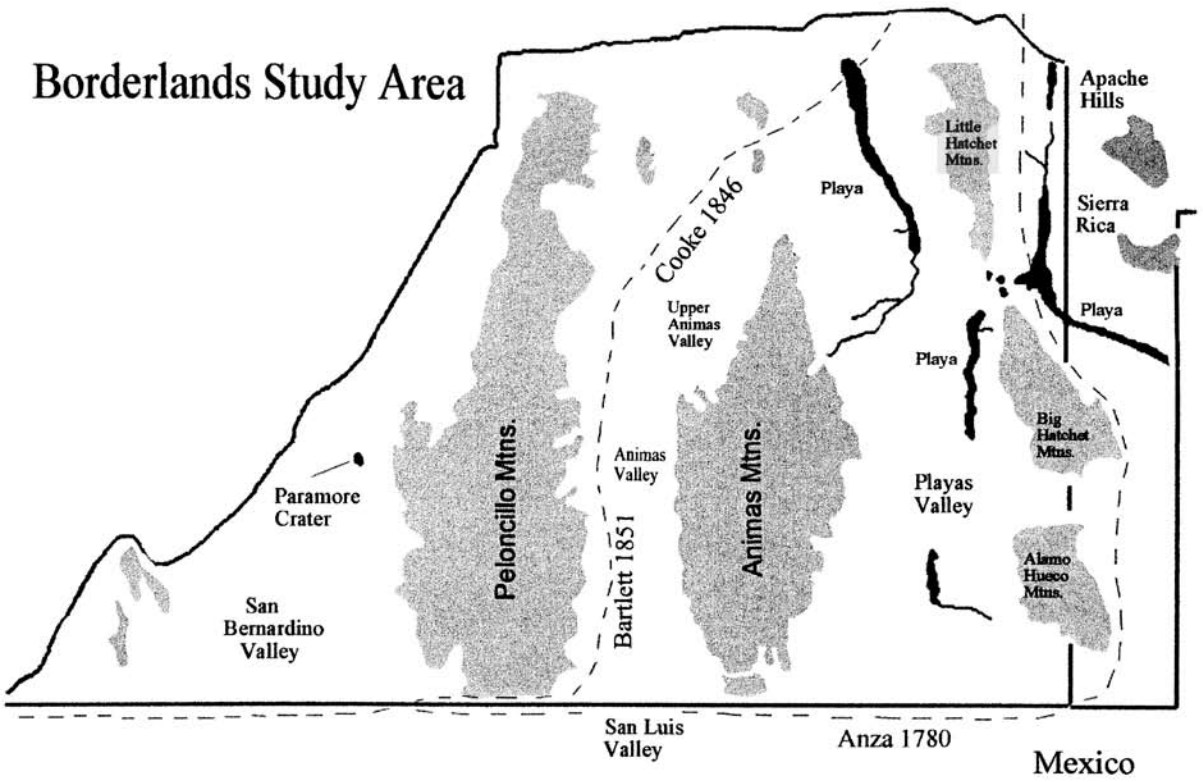

Figure 4.3. The trails of Anza (1780), Cooke (1846), and Bartlett (1851). The trail through the Animas Valley was referred to as the southern route by American immigrants and was used prior to 1846 by Spanish and Mexican military patrols.

by Cooke in November 1846, but found to be dry by Bartlett in May 5 years later, were obviously seasonal sources.

After Boundary Commissioner Bartlett returned to Santa Rita from Arispe, he again set out due west toward the Gila River to meet with his Mexican counterpart, Commissioner Padro Garcia Conde. The meeting was to discuss the progress of the survey both groups were performing with respect to the new boundary between the United States and Mexico. During this trip Bartlett was guided west by a Mexican Lancer sent by the Mexican Commission. The route was through country familiar to Mexican troops and had been crossed by at least one emigrant train in 1849 (Etter 1995: 7). Bartlett followed Conde's trail from spring to spring. The trail went from the Burro Mountains, southwest to a pass in the Peloncillo Range, on to the drainage of San Simon, and through Apache Pass between the Dos Cabezas and Chiricahua Mountains to the southern end of the Willcox Playa. Here, Bartlett found Conde in retreat south due to dwindling supplies.

The examples above reflect the character of water sources in and adjacent to the study area. The basin and range setting of the Animas, Peloncillo, and Chiricahua Mountains are subject to orographic rains. Undoubtedly, this moisture contributes to the springs along the edges of the intervening valleys, making these corridors preferred wagon routes. On the other hand, to get to these valleys by way of the Rio Grande/Mimbres route there was little choice but to cross the expansive 100-mile-long by 60-mile-wide dry plain on the northern and northeastern edge of the study area. It lacked the advantage of orographic moisture and elevated land features that might bring water to the surface. Anderson (1864) refers to this plain as the Plateau of the Sierra Madre. Traveling east from the Santa Cruz River to the study area was not as difficult as long as water and sufficient supplies were carried. Although Bartlett (1854), Cooke (1964), Naylor and Polzer (1986), and Thomas (1932), remark on the locations of springs, most are general descriptions.

During drier seasons and periods of drought, travel through the Borderlands would have been debilitating to travelers and livestock. There are no journal entries concerning drought for the Borderlands from materials reviewed, but a diary entry made by Captain Don Antonio Cordero during one campaign mentions an apparent range fire caused by excessive heat in late November 1785 (see Thomas 1932: 288). This suggests hot and dry

condition, but oddly enough, 7 days later heavy snows covered the ground and 30 animals (horses or mules) died in the vicinity of the Animas Valley due to lack of pasture. Either the snow was covering the fodder or there was little grass in the valley that year.

In spite of a lack of specific references, the study area surely was impacted by the drought of 1670 and 1671 mentioned by Di Peso (1974: 864–866) as the Southwest Scourge, and by the severe drought of 1684 in the Casas Grandes district (Naylor 1969: 11). A letter translated by Thomas (1932: 166–168) from Anza to Senor Governor and Commander General Croix notes a severe drought in or about the year 1779 that caused substantial hardship to the Zuni and other groups in a far-reaching area.

Comments on Flora and Fauna

Spanish military journals provide only a few general references to the ecology of the Borderlands, and it is difficult to compile a thorough description of the environment prior to the mid-1840s. For instance, the south side of the Chiricahua Mountains was described by Captain Don Joseph Antonio Vildosola in 1780 simply as a fine-looking plain with water year round (Thomas 1932: 208). It is not until Cooke's expedition in 1846 and Bartlett's in 1851 that relevant comments were made about the interior of the Borderlands.

Cooke (1964: 134–139) described the Animas Valley as a smooth plain with the grama grass waving in the wind. Bartlett (1854: 250–255), five years later noted the same valley as having luxuriant grassland with black loam soils and with little wood for fires. Bartlett mentioned seeing a large grove of oak in the Animas Valley that was plotted on a sketch map prepared during Cooke's march to the Pacific.

Both these leaders describe the mountains and broken ravines of the Guadalupe Mountains as being covered chiefly with live oak and cedars. Also mentioned are canyons with ash, walnut, sycamore, and cottonwood, and hillsides dotted with yucca and mescal, small cactus, ocotillo, and other shrubs.

Beyond the Guadalupe Mountains is the San Bernardino Valley. Here Cooke (1964: 139) described the soil at the ruin of San Bernardino as good, but the grass on December 1, 1846, as poor. Bartlett (1854: 259), on the other hand, related that the horses were let out to feed on the rich grass of San Bernardino in May 1851. Beyond this valley, Bartlett's livestock suffered from poor grass. Both men note that the elevated country to the west of San Bernardino was covered with mesquite chaparral and thorny bushes. They may have been referring to the vast acacia forest that still exists in the area today.

Wildlife

In the mid-19th century, a considerable number of feral livestock roamed the western edge of the Borderlands. Wild cattle estimated in the thousands and herds of wild horses were commonly seen along the southern route between San Bernardino and the San Pedro River. The Mormon Battalion smoked a considerable amount of bull meat in 1846 prior to leaving the region. During Bartlett's second trip from the Santa Rita copper mines to the lower Gila River in late 1851, his party encountered 30 or 40 Mexicans from the town of Santa Cruz hunting wild cattle on the San Pedro River. These wild herds were a reminder of the failed attempt by the Spanish and Mexicans to gain a dominant position in the vast region controlled by Apache bands.

A number of comments were made about the wildlife of the Borderlands and adjoining regions. Antelope herds were observed in the Animas Valley and elsewhere by Cooke and Bartlett, suggesting they were plentiful, and three bears were observed by Cooke in the Guadalupe Mountains. California partridge, turkey, deer, goats, a young panther, grizzly bear, wolves, and various rodents and reptiles were noted by both men in adjacent regions. A flock of herons arose from the springs of San Bernardino in May 1851 as the Boundary Commission passed through the area to Arispe. The San Pedro River in 1846 was described as "...a fine bold stream!...[where] salmon trout, eighteen inches long, were caught" (Cooke 1964: 144–145). When the Boundary Commission passed through the region in September 1851, Bartlett's draughtsman Henry C. Pratt caught trout in Babocomori Creek some 7 miles above its juncture with the San Pedro River. Bartlett (1854: 396) described Babocomori Creek as a stream 20 feet wide and in some places 2 feet deep. Pratt also caught several small trout in a stream to the southwest that, more than likely was the headwaters of Sonoita Creek.

Concluding Remarks

Writers such as Dobyns (1981) or Hastings and Turner (1965) offer detailed discussion of the mid-18th and 19th century landscape. These authors compare and contrast the landscape of the past and near present and provide insight into change on a regional scale. Their accounts are based on multiple lines of evidence, including archival research.

Spanish settlement in the Borderlands was temporary; several Spanish troops with families moved from Fronteras to live at the springs of San Bernardino between 1775 and 1780, and a possible second occupation

occurred when a Mexican rancher attempted to gain title to the same land in 1820. His tenure in the territory was short lived. All other occupations of the Borderlands by Euro-Americans during this period seem to have been transient, consisting of camp sites.

Records consulted for this summary mentioned only two kinds of direct and intentional manipulation of the Borderlands environment, hunting of native game and occasional road building. In addition, the terrain around San Bernardino probably was cleared of trees for firewood, furniture, corrals, and construction material associated with building the fledgling presidio in 1775. The more important impact of introduced livestock and subsequently feral animals can only be inferred. Other indirect impacts resulted from the Euro-American presence. For instance, Bartlett (1854: 295–296) suggested that a range fire in the Guadalupe Mountains was caused by careless Mexican patrols. It is also likely that Spanish troops had occasion to leave camps and signal fires unattended as did the Apache and their allies. Appendix D provides further information on fire.

The impact of Mexican cattle ranching on the Borderlands is difficult to measure. Cattle and horse herds were abandoned upon the retreat of Mexican ranchers who deferred to Apaches by the early 19th century. Dobyns (1981: 79–89) suggests that large numbers of wild cattle, horses, and mules set the stage for substantial erosion and grass depletion in the late 1800s. Dobyns (1981) used estimates of wild herd size reported by early travelers passing through the San Bernardino Valley and San Pedro River drainage. For instance, he uses Bartlett's estimate that there were over 100,000 head of feral livestock in the region in the early to mid-19th century. On the other hand, Sheridan (1995: 128) argues that early estimates of herd size were probably inflated. He (Sheridan 1995: 129) notes that:

> …cattle from the Mexican land grants must have clustered around the few springs and streams of the region, which may have given travelers the misleading impression that they were equally abundant away from water. Yet even though observers like Lieutenant-Colonel Philip St. George Cooke noted cattle trails and wallows along the San Pedro River, they also described lush grasslands and a flowing stream with beaver dams and 'salmon trout' (possibly squawfish) in 'great number' up to 'three feet long.' Such riparian exuberance would not have withstood the hooves and teeth of vast herds.

Undoubtedly, wild livestock roaming the west flank of the Borderlands had an impact on the natural setting. They caused erosion by creating trails, grazed near water sources, and competed for pasture with herds of antelope and deer. Beyond this, the degree of impact cannot be specified. Such herds of feral cattle and wild horses were not encountered in the Animas Valley, possibly because the Peloncillo and Guadalupe Mountains form a barrier or because the livestock did not have time and opportunity to range beyond their original pasture, the abandoned Mexican land grants.

In summary, the Spanish, Mexican, and American presence in the Borderlands study area, prior to 1856, was transient. Notations on human-initiated range fires, short-term settlement, and ranching provide no measurable information to indicate whether the presence of these groups caused significant and lasting ecological change. However, it can be argued that between 1680 and 1856 the Euro-American presence had a profound influence on the interaction between native peoples and the environment of the region. Once Spanish and Mexican patrols entered the Borderlands, native peoples relocated to more obscure locations and probably had to curtail much of their normal activity in an effort to remain hidden. Hunting in open country may have declined and resulted in increased herds of antelope and deer in the grasslands. Finally, signal fires, cooking fires in camps and villages, and fires used to flush out game or to increase forage for browsing game would have been used more discretely in an effort to avoid detection by Spanish and Mexican patrols.