

RESOURCES

Resources described below are in or near the corridors of the Old Spanish Trail. In some cases (for example, Indian pueblos and natural landmarks), sites may be listed both here and in Appendix E: "Existing Public Use Sites."

Site descriptions are organized by state and by route segment, generally moving from east (Santa Fe) to west (Los Angeles). *Sites that are directly associated with the trail are indicated by an asterisk (*). Not all these sites would necessarily qualify for inclusion in national historic trails programs.* Where known, state archeological site numbers are included. Other historic sites are listed below, to provide background for the reader and for consideration in the "Environmental Consequences" section. Also note that historic spellings for certain terms may differ—for example, "Mojave" vs. "Mohave," and "Paiute" vs. "Piute."

ARCHEOLOGICAL AND HISTORICAL RESOURCES

New Mexico

Southern (Armijo) Route. Antonio Armijo left the village of Abiquiú on November 6, 1829, en route to California. Abiquiú * was built around 1744 on the former site of a Tewa pueblo on the banks of the Chama River. During the 1700s and early 1800s, this outlying settlement was an important locality from which Spanish and Mexican operations were conducted. Abiquiú served as a Spanish military garrison post and "a collecting point for Indian slaves and captives." Because of its location near Indian territory, "many important conferences and treaty negotiations ... were held here" (Marsh 1982:42-43). It was from Abiquiú that the Domínguez-Escalante expedition left on August 1, 1776.

Abiquiú's settlers were a mixture of Spaniards and *genízaros* (Hispanicized Indians), who quickly made the area into an important trading center and jumping-off point for the Old Spanish Trail. The comingled Armijo Route and main Old Spanish Trail route divide just east of Abiquiú Reservoir (Madsen 1998a).

Northern Route—(including the North Branch). The Old Spanish Trail began in Santa Fe and continued northward through a number of historic Hispanic and Indian communities, many of which supplied the trade items for the mule trains. La Villa Real de la Santa Fé was established as the capital of New Mexico in 1610. Set on the ruins of an abandoned Tanoan Indian village, Santa Fe was laid out around a *palacio*, or Palace of the Governors, which served as a seat of government, and, along with the plaza, is a National Historic Landmark.

The Tewa Pueblo of Nambé was one of the first to receive a mission in New Mexico; today, only a few of the early buildings remain. While the village of Pojoaque remains, the original Pojoaque Pueblo was abandoned after the Pueblo Revolt, and only an archeological site marks the original location. The present village of San Ildefonso (listed on the National Register of Historic Places) was settled around 1600, and was a major participant in the Pueblo Revolt of 1680. Santa Clara Pueblo, also a National Register property about 10 miles north of San Ildefonso, was Fray Escalante's first stop en route to southern Colorado and Utah.

The Hispanic community of Chimayo, famous for its weaving, was founded on the site of an old Tewa pueblo. Chimayo's Santuario de Nuestro Señor de Esquipulas, noted for its reported curative powers, was built between 1813 and 1816, and is now a National Historic Landmark (NHL) (Fugate and Fugate 1989:259-260).

Taos Pueblo, in existence in 1540 when Coronado entered the region, was the scene of an annual Indian trade fair. Taos, now a National Historic Landmark and World Heritage Site, served as the headquarters for fur trappers after about 1820, and figured prominently in the Old Spanish Trail traffic. The Church of St. Francis of Assisi was built in Ranchos de Taos in the 1770s as a mission for the conversion of Taos Indians (Fugate and Fugate 1989:224). The church is also a National Historic Landmark. The early eighteenth-century village of Talpa (LA3931) is five miles west of Taos, near the mouth of the Río Chiquito, and was settled as part of the occupation of the Ranchos de Taos (Fugate and Fugate 1989:251).

Kit Carson's home in Taos* (LA3929) was built in 1825 and purchased by Carson in 1843. Carson was among the most renowned of the mountain men/trappers-turned-trail-guides during the second quarter of the nineteenth century. The home is a National Historic Landmark.

Santa Cruz was the second villa established in Mexico, its populace drawn from immigrant families from Zacatecas. The Old Spanish Mission, "a massive cruciform church built in 1733," containing religious art of the Spanish colonial period, dominates the plaza in Santa Cruz (Fugate and Fugate 1989:229). The town of Tesuque dates from 1740, and was named for the nearby Tewa pueblo founded sometime around A.D. 1300. The Pueblo Revolt of 1680 began at Tesuque Pueblo (now on the National Register). Nambé Pueblo, centrally located on the Nambé Indian Reservation, was one of the first missions in New Mexico. Ruins and archeological remains attest to the long history of this National Register site. According to the Crampton and Madsen maps (n.d.), Macomb's camp number 2 was at San Juan Pueblo* on the San Juan Indian Reservation. George Ruxton traveled the Old Spanish Trail in 1847-1848 and described San Juan Pueblo, as well as Taos and its distilleries. The western fork of the North Branch of the Old Spanish Trail veered off to the northeast at San Juan Pueblo, now a National Register property.

The farming community of Questa*(LA5200) (originally called San Antonio del Río Colorado) dates to around 1829, and was an important stopping place on the trail. Several early 1800s sites remain in Arroyo Hondo, including Penitente moradas and Simon Turley's mill and distillery. Simon Turley established a ranch in 1830, built up herds of cattle and sheep, and planted corn and wheat. Turley's water-powered gristmill produced flour and cornmeal, the looms and spinning wheels produced woolen goods, and the distillery produced "Taos Lightning." These products were used in New Mexico trade on the Old Spanish Trail.

The approximate location of old Fort Lowell lies southeast of El Vado State Park in Río Chama Recreation Area. This fort was on the route followed by Macomb (Crampton and Madsen, n.d.).

At the Abiquiú crossing of the Río Grande, the Workman-Rowland party purchased 150 sheep for meat on the journey to California. They also hired Mexican servants to help with odd jobs (Hafen and Hafen 1982:209). Rancho Abiquiú and the fallen adobe walls of the mid-eighteenth-century Santa Rosa de Lima Chapel lies on the trail east of present-day Abiquiú. The Abiquiú Mesa Grid Gardens and the chapel are listed on the National Register.

An intact visible segment of the Old Spanish Trail's main route* lies just east of the Abiquiú Reservoir in the general vicinity of the Domínguez-Escalante commemorative marker (Madsen 1998a). The

landmark known as *Ojo de Navajo, mentioned by Macomb in 1859, was identified near Macomb's Camp number 6.

La Puerta Grande, an important landmark, provided a relatively level pathway between the large north-south trending mesas formerly known as Los Santísima Trinidad. La Puerta Grande connected what is now El Vado Reservoir on the east with Stinking Lake (formerly Lago Hediondo) on the west (Crampton and Madsen 1994:19-20). The cartographer for the Domínguez-Escalante expedition, Bernardo y Pacheco, documented El Vado (the ford of the Río Chama). Another landmark, Cerro del Pedernal (Abiquiú Peak)*, was sketched by the Macomb expedition in 1859 (Crampton and Madsen 1994:18).

Colorado

Armijo (Southern) Route. No sites or trail traces have been documented along the Armijo Route in southwestern Colorado.

Northern Route—North Branch. Fort Massachusetts was built in 1852 near the Old Spanish Trail to protect roads and settlers of the San Luis Valley from Indian attacks (1851). The fort was visited and described by travelers such as Heap and Gunnison, but was abandoned not long after its construction due to extremely marshy conditions. It was replaced by Fort Garland, now a National Register property (Kessler 1998:327).

A short segment of the East Fork of the North Branch* of the Old Spanish Trail can be seen north of the town of Blanca in the San Luis Valley. While the two-track ruts are difficult to distinguish on the ground, they are clearly visible from the air (Kessler 1998b). This segment is thought to have connected with Fort Massachusetts (5CT30).

The North Branch through the San Luis Valley developed from Indian trails, and was later used by explorers, trappers, and travelers. Between 1694 and 1825, at least five individuals or groups are known to have traversed parts of the San Luis Valley from what is now New Mexico over the Taos Trail or Trappers' Road, a route that later became the Old Spanish Trail, North Branch. As listed by Kessler (1998a:5), these groups are: don Diego de Vargas (1694), Roque Madrid (1705), Juan Bautista de Anza (1779), Zebulon Pike (1807), and Jacob Fowler (1822). In 1822, Fowler reported seeing at

the lower Eand of this large vally [San Luis Valley] ... to the River Delnort about 6 miles to our Right as We Have been going down that River ... a Small Spanish vilege but abandoned by the Inhabetance for feer of the Indeans ... (1822, quoted in Kessler 1998a:92).

George Ruxton traveled along the North Branch through the San Luis Valley in the dead of winter, December 1847. He described campsites* near La Culebra and El Vallecito left by a Mormon group who had preceded him. A campsite at the foot of Mosca Pass* (5AL303) near the Great Sand Dunes, was used by at least three American explorers over a period of 46 years—Zebulon Pike (1807), John Frémont (1848), and John Gunnison (1853). Hafen and Hafen (1982:332, fn12) and Kessler (1998a:140) both suggest that George D. Brewerton (accompanying Kit Carson) traveled from Los Angeles to Santa Fe in 1848 by means of the North Branch of the Old Spanish Trail.

The Guadalupe (Conejos) Land Grant was established in 1833. Colonization was attempted by the family grantees of northern New Mexico in 1833 and 1842-1843 along the western fork of the North Branch of the Old Spanish Trail. Colonization failed because of Indian attacks until the late 1840s or early 1850s, when settlers from Abiquiú and El Rito came to settle the area. Guadalupe Plaza

(5CN490), along the Conejos River near Conejos, marks this early settlement. The La Valle townsite (5CT128, "San Francisco," or Rito de los Indios) near San Luis was an 1846 Indian settlement.

In the vicinity of Del Norte, deep ruts etched into bedrock * mark the former route of wagon travel, which probably followed much the same route as earlier mule trains may have traveled on the western fork of the North Branch. (The "Limekiln Wagon Tracks" have been documented as archeological site 5RN539.1.) A large boulder bearing the inscription "1858" was found in this vicinity, but nothing is known of those who left this inscription behind. Local informants suggest it is possible that Euro-American travel on the western fork of the North Branch dates to as early as 1779, when Juan Bautista de Anza passed through en route to subdue the Utes. Research suggests this trail probably crossed the Río Grande near Del Norte in an area visible on aerial photographs. One of Frémont's campsites* has been recorded as site 5RN393, in the vicinity of Del Norte. Farther north, near La Garita, sections of the route* are again visible as faint two-track depressions. Gwinn Harris Heap described this segment of the trail in 1853:

We proceeded immediately on our journey, and coasting up the left bank of the Del Norte [Río Grande] about ten miles, left it where it made a bend to the westward, directing our course north by west to the Sahwatch [Saguache] valley The plain was as level as the sea to the foot of the mountains, which inclose San Luis valley In fourteen miles from the point where we left the river [Río Grande], we crossed a fine brook of clear and cool water--the Río de la Garita. In ten miles from the Río Garita, we came to an abundant spring, surrounded by good grass at the spring we found a trail leading to the Sahwatch valley. The valley of San Luis, to the commencement of the Sahwatch, is singularly level ... and has two entrances from that of San Luis. The one which we selected ... [was] called ... El Rincon del Sahwatch (the corner of the Sahwatch) ... (Heap 1853, quoted in Kessler 1998a:170-171). (Heap's account was also included with Colorado state site form 5RN539.1; the above quote uses a combined version of text from both the site form and Ron Kessler's publication.)

A number of the historic communities in the valley, such as Del Norte (La Loma del Norte), Carnerio, Conejos (settled around 1858), and El Carnero or La Garita (Torres trading post at La Garita, 1858, site 5SH1032), grew up around the camping areas established during operation of the Old Spanish Trail. Near La Garita is Capilla de San Juan Bautista (5SH125), a site listed on the National Register. This church is also known as La Inglesia de La Garita and St. John's church, and was built in the 1870s on the remains of the earlier settlement, which is marked by adobe ruins and a small cemetery.

Site 5SH1301 has been documented as the probable location of John Charles Frémont's Groundhog Creek Camp of the 1848-1849 expedition. The site consists of 11 stumps, crudely hewn away with an axe some distance above the ground. A nearby log rectangle may have been the remains of a crude structure built by Frémont's men for emergency shelter, as mentioned in an expedition diary. Other remains of Frémont's camps in this area include a crudely made sled, mule skeletal materials, evidence of hearths, and the date 1848 inscribed on a rock outcrop. Frémont was seeking a central all-weather railroad route to the Pacific when the party became trapped by blizzards in the La Garita Mountains, suffering the loss of 11 men, 100 mules, and most of their supplies. Rescued by one of the Canadian French mountain men, the survivors are thought to have returned to Taos following the North Branch Route east from the La Garita area, across the San Luis Valley to the Sangre de Cristo Range, and then south to New Mexico along the North Branch.

In 1837, William Pope, Isaac Slover, and William Wolfskill (Hafen and Hafen 1982:181-182, 198) traveled the North Branch. George Frederick Ruxton noted the wind and cold and described landmarks on his 1847 journey through the San Luis Valley en route to Pueblo by means of the Trapper's Road (Ruxton quoted in Kessler 1998a:117). Other travelers who went through the San Luis Valley and described its terrain and landmarks include: Heap and Beale (1853); John Williams Gunnison and Jacob Heinrich

Scheil (1853); Frémont (1844); and Brewerton and Kit Carson (1848) (Kessler 1998a:139-140, 175, 213-214, 219; Hafen and Hafen 1982:336 fn12).

The Southern Ute Indian Agency near Conejos (5CN488) was built around 1859, and played an important role in initial attempts to remove the Utes from the San Luis Valley. The agency was moved to the Saguache area to fulfill the Ute Treaty of 1868 (5SH1021).

Traces of the route* are visible on a hillside in the Cochetopa vicinity. The word "Cochetopa" means "Buffalo Crossing" or "Buffalo Pass," a term used by Indian groups who used the route to move between the San Luis and Gunnison valleys. Cochetopa Pass* (also known as "Marcy's Crossing") was an important landmark along the North Branch of the Old Spanish Trail. The historic pass, recorded as Colorado site 5SH1025, was surveyed by Gunnison and Frémont, and crossed by Marcy, Loring, Marcus Whitman, and other early explorers. Frémont crossed the pass following Gunnison's wagon tracks (Kessler 1998a:263).

Over time, segments of the Old Spanish Trail between the Lake Fork of the Gunnison River and the Uncompahgre River became known as the Old Salt Lake Road*. In Colorado, this route was used to transport livestock, supplies, and military personnel, particularly between Fort Garland and the Ute Indian Agency. In his account of his May 1853 journey, Heap also provided excellent descriptions of the area near La Garita, the Saguache Valley, and Cochetopa Pass.

The Ute Memorial Site, south of Montrose, occupies part of the ranch of the Ute leader Chief Ouray. The onsite museum commemorating the long history of the Ute Indians is listed on the National Register of Historic Places.

The Old Spanish Trail forded the Uncompahgre River just south of Olathe. Other river fords whose general location is known include the Uncompahgre River crossing south of Delta, and the crossing of the Gunnison River just to the west of Delta. Fort Roubideau (Robidoux) was a trading post belonging to the brothers Robidoux; it was built in 1828, and used until it was burned in 1844. This fort was a few miles west of the town of Delta on the Gunnison River. The reconstructed fort, now known as Fort Uncompahgre, is located in Delta. By the late 1820s, Antoine Robidoux was making regular pack trips between St. Louis and Fort Uncompahgre, following what would become the North Branch, between the crossing of the Sangre de Cristo Mountains and the vicinity of present-day Delta, Colorado. Fort Uncompahgre*, designated sites 5DT606 and 5DT746, is in the vicinity of the Roubidoux Wildlife Refuge, but flooding and farming are thought to have destroyed the physical remains. Gwinn Harris Heap's journal of the Beale expedition in 1853 notes the presence of old "Fort Roubideau" and other landmarks in the vicinity of the present-day communities of Delta, Gunnison, and Grand Junction (Heap quoted in Kessler 1998a:180, et seq.)

A number of rock cairns are along the route between Delta and Grand Junction. While sheepherders or prehistoric peoples may have placed them, some researchers suggest that these cairns could have been placed to guide travelers along the Old Spanish Trail. Numerous trappers and traders later used this section of trail between Delta and Grand Junction.

Travelers include missionary Marcus Whitman, who crossed the Colorado River near present-day Grand Junction in 1842 en route from Oregon to Washington, D.C., by way of Fort Uncompahgre. Whitman used segments of the Old Spanish Trail. Site 5ME.775* was also known as the Whitman, Pattie, and Gunnison trail. About 1977, the Bureau of Land Management developed a map of the Whitman Route, but the route was not documented on the ground. The Old Spanish Trail near Grand

Junction* was mapped by the Gunnison expedition of 1853; on September 19 of that year they camped at the Colorado River crossing. This crossing and the adjacent trail segments have been designated Colorado site 5ME775.1*. A number of trappers and travelers left the Old Spanish Trail at its intersection with the Kannah Creek drainage using the Kannah Creek Trail (5ME1187), which ran west of Grand Junction, northward along Salt Creek.

Multiple, parallel wagon ruts and trail traces* on and near "Fool's Hill" (about halfway between Delta and Grand Junction) have been documented as the Old Spanish Trail/Salt Lake Wagon Road (sites 5DT854, 5DT854.1, 5DT854.2, and 5ME775.1). According to Steven Mehls (1982:9), Pedro Mora, Gregorio Sandoval, and Andres Muñiz traveled this portion of the trail in the eighteenth century. These Spanish traders followed the Río Grande north from Santa Fe to the vicinity of the present-day town of Alamosa, and traveled north into the Saguache area and over Cochetopa Pass to the Gunnison River. From there they followed the Gunnison River to the present site of Grand Junction. The route was later traveled by a number of trappers and traders, was the main access route to Fort Uncompahgre, and eventually became the North Branch of the Old Spanish Trail.

According to local informants, a campsite thought to date to the Old Spanish Trail period is in the vicinity of Kannah Creek, an area where Ute trails intersected the Old Spanish Trail. Another temporary, repeatedly used camp (5DT853) was associated with the Salt Lake Wagon Road (5DT854.1) which, in turn, followed the Old Spanish Trail through this area.

Some authors (such as Chenoweth 1998) have identified trail remnants along the Gunnison River south of Grand Junction*. Chenoweth also has identified the Whitewater Hill Road*, southeast of Grand Junction, as a remnant of the Old Salt Lake Wagon Road. The North Branch left Colorado west of Grand Junction.

Northern Route (through Durango). A number of campsites related to the Old Spanish Trail have been identified along the San Juan and Los Pinos rivers by researchers Sánchez and Erickson (1998b) and Crampton and Madsen (n.d.). However, no archeological remains related to these sites have, as yet, been identified. Domínguez and Escalante are known to have crossed the Animas River near Durango on August 8-9, 1776. The probable location of the crossing has been designated site 5LP1971, and marked with a plaque.

Only a few traces remain of original single-track mule trails, because most of the routes were later used by wagon traffic, and during the twentieth century, off-road-vehicle traffic has further obscured original trails. A short section of the mule trail (see Figure 1) has been identified by researchers Crampton and Madsen (1994) in the Durango vicinity.* The Animas River ford used by Old Spanish Trail travelers is also thought to be in this area*.

Remains of an old stage station have been identified near Yellowjacket Spring in Montezuma County. Nearby Yellowjacket Pueblo Ruins is also situated on the Old Spanish Trail and was first documented by Dr. J. S. Newberry of the Macomb expedition in 1859 (Crampton and Madsen 1994:42). This ruin, consisting of a group of associated prehistoric Mesa Verde culture masonry rubble mounds and features, is listed on the National Register of Historic Places.

As the route led north and west into Dolores County, little fresh water was available for travelers and their livestock, so there had to be more reliance on springs. Travelers using the various wagon roads that replicated or paralleled the Old Spanish Trail between Yellow Jacket and Cahone (the 1884 Utah Road; the 1913 Utah Road; the 1916 Old Utah Road; the 1913 Monticello-to-Dolores Road) depended upon the

springs at Cross Canyon for water. A number of these travelers inscribed their names on the canyon walls at Cross Canyon.

The Old Spanish Trail entered Cross Canyon by way of Alkali Canyon*, where several short segments of the trail are still visible. On one segment, dry-laid cobbles were used along the lower side of the single track to improve and level the trail surface for mule traffic, and to check erosion. Near Irwin Spring* in Dolores County, some of the original trail is still visible, although some sections appear to have had later usage as a two-track road (Madsen 1998a).

Utah

Armijo (Southern) Route. Armijo followed the Domínguez-Escalante Route in some areas of New Mexico and Utah, and this route has been mapped and interpretive signs erected at key points (Miller 1976). Several authors (Olsen 1965:12, Sánchez 1999b) think it likely that Armijo stopped at Pipe Spring*, and Domínguez and Escalante are known to have camped southwest of the spring.

Domínguez and Escalante crossed the Colorado River at El Vado de los Padres* (the Crossing of the Fathers), as did Armijo. Armijo's men improved the steps carved into the canyon wall by Domínguez and Escalante some half a century earlier. The construction of Glen Canyon dam, begun in 1956, flooded El Vado de los Padres under Lake Powell, which today forms part of Glen Canyon National Recreation Area.

Northern Route (including the North Branch). Because of its steady flow of good water, Piute Springs* ("Ute" Spring in far eastern Utah) was an important stopping place on the Old Spanish Trail, and trail traces are still visible in the vicinity (Crampton and Madsen 1994:45). Identifiable landmarks along this section of the route include Ojo Verde*, Hatch Rock*, Summit Point*, South Canyon*, and Canyon Pintado*, and a number of large, red, wind-shaped sandstone promontories (Casa Colorado, Red Rock, and Looking Glass Rock)*. Several researchers (Crampton and Madsen 1994:47; Pierson 1998:6) relocated Las Tinajas*, or water tanks (Choteau/Pratt's "tewaja" and Macomb's La Tenejal), which were used by Old Spanish Trail travelers. The tanks are situated in the base of the sandstone drainages south of Casa Colorado, and segments of trail are visible near Casa Colorado Wash*. Pierson (1998:6) identified one of the three crossings of Mule Shoe Wash* as the area where the trail crossed after heading north from Looking Glass Rock. Near Looking Glass Rock, several segments of the dugout wagon road have been documented as Utah site 42Sa11566. The roadbed is cut into the sandstone bedrock on its uphill side and is built up with dry-laid sandstone masonry on the downslope side.

Although the general location has been identified, no archeological remains of the Old Spanish Trail Colorado River Crossing near Moab have been documented. In a canyon a few miles north of the trail and the Colorado River, an inscription was carved into the sandstone cliffs. The inscription reads: "Antoine Robidoux passe ici le 13 Novembre 1837 pour etablire maison traite a la Rv. vert ou wi(y)te" ("Antoine Robidoux passed here November 13, 1837, to establish a house or trade/trading post at the Green River or Winte"). This site (42Gr2302) is listed on the National Register.

Around 30 miles northwest of Moab is a long segment of wagon road consisting of a linear path of leveled ground with two low soil berms along both margins. This trail segment has been documented as site 42Gr2630*.

In the San Rafael area, there are ruts across San Rafael Swell. Some of these two-track ruts have been documented as archeological site 42Em1485*. A 3-mile section of the Castle Dale-Green River Wagon

Road* is listed on the National Register as part of the Old Spanish Trail. Rust stains, cuts, fills, and wagon-wheel ruts etched into the sandstone are visible in many areas.

Archeological site 42Sv2245* is a gravel road across the southern Castle Valley. This road followed the course of the Gunnison Route and Old Spanish Trail as the routes converged toward Ivie Creek and Salina Canyon. The Ivie Creek Canyon pictographs* were described by Gunnison in 1853, and again in 1855 by the Huntington expedition (a member of this expedition, I. M. Behunin, also inscribed his name on the canyon walls (Crampton and Madsen 1994:63)). Early county surveys identify this road as Gunnison's Route*, and Gunnison identifies the route as the Old Spanish Trail.

Crampton and Madsen documented other segments of trail* east of Castle Dale in Emery County; on Buckhorn Flat; in Furniture Draw; on Walker Flat; at Iron Springs Camp; and at Big Hole (Madsen 1998). Several trail remnants are visible along Um Creek and near the spring east of Koosharem*.

Several names reportedly were carved in the walls of Colorado Wash ¼ mile from the trail near Moore, Utah. These inscriptions include crosses and the names "M[auricio] Arze 1812[?], J. W. Gunnison, J. Frémont 1844" (Crampton Collection, Box 219). Unidentified travelers in 1831 (Kelly 1950:22) left another set of inscriptions (initials) in a canyon near Paragonah*.

Kane Springs*, another important stopping place on the route, is at the base of a large sandstone promontory designated "St. Louis Rock" by a group of Mormon travelers in 1855. A section of the Old Spanish Trail and a dugway are preserved in this vicinity. (The dugway was constructed for wagon travel along the route in 1879.) The trail ran through what is known today as "Spanish Valley," a name appearing in the Hayden survey maps of 1877. Later wagon roads followed the Old Spanish Trail in this area, and have been documented as site 42Sa11566.11*.

Extant portions of the route in Washington County have been documented (42Ws2528)* in the vicinity of Mountain Meadow, including segments near the crossing of Dan Sill Creek. The route ran through the center of the Hamblin townsite. The remnants are eligible for the National Register because of their association with themes of Utah transportation, as well as with Hamblin and the Mountain Meadows Massacre. Mountain Meadow* was a favored campsite for caravans, and was mentioned in traveler's diaries, including those of Frémont, Brewerton, and Pratt (Madsen 1998a). Orville Pratt described the area saying "There is fine & tender grass enough growing on this Vegas to fatten a thousand head of horses or cattle" (Crampton and Madsen 1994:73). The Hamblin Ranch (1855-1870) was also on the route between Holt Canyon and Mountain Meadows. According to the archeological site form (42Ws1585)*, this section of the Old Spanish Trail is in "pristine condition." The entire site (including the trail segment) is eligible for the National Register.

At Camp Spring, near Shivwitz, numerous travelers carved their initials on the nearby rocks. While these inscriptions generally post-date the major use of the Old Spanish Trail, they are in an area known to have been used by both Frémont and Wheeler (Madsen 1998).

Near Newcastle, Utah, a sign marking the "Site of Blacksmith Shop on the Old Spanish Trail 1800-1850" was erected by townspeople in 1950. Although the location lies on the trail route, no archeological evidence was found to indicate the presence of a blacksmith shop in this area (Naylor 1998). A "pioneer register" on rocks near Camp Spring documents military personnel and other travelers during the early 1860s.

Arizona

Armijo Route. See the "Utah" section above, for the "Crossing of the Fathers." According to Altschul and Fairley (1989:158), Armijo's party followed the Domínguez-Escalante route to the Fredonia vicinity where they proceeded west along the base of the Vermilion Cliffs, camped at Agua de la Vieja (thought to be present-day Pipe Springs*), and later at Stinking Water (La Verkin Springs*). The Armijo Route joins the Northern Route near the Nevada/Arizona/Utah border. The Pipe Spring-Fredonia Road (documented as a historic site) follows the Armijo Route*. Pipe Springs is also listed on the Arizona state site list*. Navajo National Monument lies adjacent to the route, and is listed on the National Register.

Mojave Road. This route was a variant of the Old Spanish Trail. Segments of the Mojave Road have been documented on the ground. (The Mojave Road of 1859 from Fort Mohave to Drum Barracks (Los Angeles) by way of Camp Cady has been designated as California Historical Landmark 963. Also known as the Old Government Road in California, the route is usually called Beale's Road in Arizona.) *Fort Mojave was built at "Beale's Crossing" in 1859 for the protection of immigrants. This fort was on or near the Mojave Road on the Arizona side of the Colorado River. John Brown began operation of the first ferry across the Colorado River here in 1862.

Crampton and Madsen (1994:75) identified a segment of the Old Spanish Trail in Mojave County. This trail trace descends to the Virgin River near Beaver Dam*. Henry W. Bigler, a member of the 1849 Hunt wagon train, carved his initials in the White Cliffs near the head of Beaver Dam Creek* (Hafen and Hafen 1982:140, 151). Another segment of the Old Spanish Trail* was identified by these authors in 1979 just above the Big Bend of the Virgin River (Madsen 1998).

The Mojave Indians occupied the Mojave Valley of the Colorado River (not to be confused with the Mojave River valley). The "Mojave villages" (situated in the vicinity of Fort Mojave, established in 1859) were visited by Garcés in 1776, Jed Smith in 1826 and 1827, and Whipple in 1854, as well as others. The villages were a sanctuary for the Mojave Indians during the revolt of 1813.

Nevada

Combined Northern and Armijo Routes. Virgin Hill*, en route to the top of Mormon Mesa*, was one of the steepest climbs on the trail route (Crampton and Madsen 1994:81-82). Segments of the route up to and across Mormon Mesa are clearly visible today, particularly along Half Way Wash* (Madsen 1998). Remnants of the route* are also present on the Moapa River Indian Reservation; in the Virgin, Moapa, and Dry Lake valleys, near Nellis Air Force Base; and in and near Las Vegas. They have been documented as archeological sites by the State of Nevada (for example, 26CK3848). Myhrer, et al. 1990:54-92) have mapped much of the route through Nevada. Their book also describes the condition of extant route segments. Roughly 15 percent of the route between Las Vegas and California was in somewhat pristine shape in 1990. Several of these trail segments have been determined eligible for the National Register.

Pictographs (thought to have been created by Native Americans) on the Stuart Ranch in the vicinity of the trail show horse-drawn carts, drivers and riders with broad-brimmed hats, and bighorn sheep and other native fauna (Madsen 1998a).

Sites in the Las Vegas area include trail segments (26CK3848)* associated with the Old Salt Lake Road, and Big Springs and the Mormon Fort. The Big Springs Archeological District* (Las Vegas, 26CK948 and 26CK949) is listed on the National Register, and includes archeological features and artifacts, structures, and springs. The site represents a long period of human use, both prehistorically and

historically, and from 1830 through 1848, it was visited by commercial Mexican trading caravans following the Old Spanish Trail.

After the Old Spanish Trail opened this area to travelers, Mormon settlers built a fort in the Big Springs drainage in 1855 to protect settlers and trail travelers. It was used until 1858. One of the original buildings and the site are preserved as the Old Las Vegas Mormon Fort State Historical Park. Extensive archeological research has uncovered remnants of the original 150-foot-long fort; both the spring and the fort are listed on the National Register (site 26CK1214).

Spring Mountain Ranch State Park* is also listed on the National Register because of its association with an "alternate" route of the Old Spanish Trail. Blue Diamond Springs (see Figure 3) (26CK2011)* (Cottonwood Spring), west of Las Vegas, was a well-known camping spot on the trail, and was identified by Frémont as having excellent grazing. Ruts* are present in this area (Myhrer, et al., 1990). Good water could also be obtained at Mountain Springs*, situated at the summit of the crossing of the Spring Mountains Range. A short distance inside the Nevada line, Stump Spring and the surrounding desert furnished sporadic water and feed for caravans. Stump Spring also was known as Escarbado, or Aqua Escarbada, a Spanish term meaning "to dig or scratch," implying that the water had to be obtained by digging (Crampton and Madsen 1994:95). Stump Spring has been modified since the 1830s and 1840s, but still provides water for livestock. Stump Spring is recorded as Old Spanish Trail site 26CK3848*, and segments of the trail are visible in the vicinity of the spring. Crampton and Madsen documented traces* of the trail on the northeast approach to the divide between the California Valley and the Pahrump Valley.

Mojave Road Variant of the Old Spanish Trail. According to historian Dennis Casebier, good examples of the mule trail, worn into solid rock, can be seen in Piute Wash*, west of Bullhead City.

California

Mojave Road. Piute Springs* lies just inside the California/Nevada border on the Mojave Road. The springs, with their numerous petroglyphs, were regular stopping places for travelers, including Garcés, Smith, Whipple, and Beale. One historic inscription reads: "STUART, 4TH INFT. MAY 16 1851[4?][7?]," and documents military use of this route. Piute Pass Archeological District is on the National Register.

Archeologists have documented segments of the Mojave Road* (CA-Sbr-4928-H) running west across Soda Lake to Soda Springs, and then following or paralleling the Armijo Route southwest into Afton Canyon, along the Mojave River. (Soda Springs is a landmark at the juncture of the Mojave Road and Armijo Route.) There are beautifully preserved traces of the trail in the Salt Springs area (Walker 1998).^{*} Unfortunately, the reconstruction of California State Highway 127 obliterated some of the remains.

Marl Springs* was one of the most important water sources between the Mojave River and the Mojave Villages/Fort Mojave. Whipple visited the springs in 1854 (California Department of Parks 1973).

Combined Northern and Armijo Routes. A large Paiute Indian winter village was located at Pahrump Springs.

At Emigrant Pass* in the Nopah Range (see Figure 4) are well-defined two-track ruts (south of the present highway) and a well-preserved mule trail trace (on the north side of the highway). This section of the trail was described by the Beale survey in 1853 (Madsen 1998b:5). Trails associated with mule trains* on the Old Spanish Trail are visible south of Tecopa, California (Walker 1998).

Numerous on-the-ground traces of Old Spanish Trail routes have been identified, including trail segments along California State Highway 127* and at the eastern base of the Avawatz Mountains (between Tecopa and Silurian Lake)*.

According to local informants, traces remain of both the mule trail and the two-track wagon road near Resting Spring (Godshall 1998). * Resting Spring is a verdant oasis situated in a badlands area at the south end of the Resting Spring Range. Water would also have been available at Tecopa Hot Springs, and along the Amargosa River. The Paiute village of Yaga* at Tecopa Hot Springs was visited by Armijo in January of 1830. From here Armijo turned south to follow the Amargosa River, a stream he named Río de los Payuches (River of the Paiutes)(Madsen 1998b:6). Frémont's 1844 expedition noted the confluence of China Ranch Creek and the Amargosa River*.

Situated at the south end of the Dumont Dunes, Amargosa Spring* was a crucial water source for travelers and their livestock. Nearby Salt Spring* contained a very high concentration of sodium chloride. In 1849, Addison Pratt discovered gold in the Salt Spring Hills, precipitating a short-lived gold rush at "Mormon Diggings." Heap reported the mining sites abandoned in 1853, but the area still shows evidence of the mid-1800s mining activity.

Bitter Spring* is situated within the Fort Irwin Military Reservation at the northeastern side of a geologic formation known today as "The Whale" for its distinctive shape. Bitter Spring was "the only surface water supply in an area nearly 70 miles square," and was a major stopping place for caravans (Madsen 1998b:9). Frémont labeled the waterhole "Agua de Tomaso;" others corrupted the name to "Agua de Tio Mesa." Rock cairns, rock structures, and traces of the redoubt built at Bitter Spring in the 1860s during the "Paiute War" are still visible today. The site is on the National Register.

Camp Cady (California Registered Historic Landmark #995) was built in 1860 to protect travelers along the route. The site lies 15 or so miles to the south of Bitter Spring, east of the trail. The location of Camp Cady can be determined, but flooding (Madsen 1998b:10) destroyed structural remains of the fort buildings. The grassy oasis at the Camp Cady site are thought to have been used as a water stop by Padre Francisco Garcés (1776), Jed Smith (1826), and John Frémont (1844).

The trail ran through Spanish Canyon (see photo on cover), a broad, flat, sandy wash separating two of the several large formations that make up Alvord Mountain. At the north end of the canyon, westbound travelers had to ascend a steep slope; at the apex of the slope the terrain was modified to allow easier passage into the canyon. Two-track ruts and mule trails* are visible in the canyon and south along the route; these trail traces are documented as CA-Sbr-6551, CA-Sbr-4272-H, and CA-Sbr-4411-H.

A single burial, dating to the 1870s, was found on a trail section east of Alvord Mountain. This suggests that an alternate, later route ran due south around the east side of Alvord Mountain and rejoined the main Old Spanish Trail in the vicinity of Manix Lake. The Spanish Canyon Route was eventually abandoned due to washouts (Mikkelsen and Hall 1990:66). Segments of the alternate route have been recorded as CA-Sbr-4411-H and CA-Sbr- 4272-H.

About four miles east of present-day Yermo and south of I-15, the Mojave Road, two variations of the Old Spanish Trail, the Armijo Route, and the Mormon Road converge to follow the Mojave River. This is the area known as "Fork of Roads"* (Madsen 1998b:10). The term "Fork of Roads" was used historically by the Wheeler expedition to describe the flat area near Yermo at the Mojave River where the Old Spanish Trail and the Mojave Trail (Road) joined (Crampton and Madsen 1994:110). In this

area, numerous one-and two-track trail traces dating to the Old Spanish Trail period have been documented archeologically as part of site CA-Sbr-4928/CA-Sbr-3033-H (Mojave Road), CA-Sbr-4272-H (Old Spanish Trail), or CA-Sbr-4411-H (Mormon Road)*.

In this area, a clay reef forced the water of the Mojave River to the surface, creating the Punta de Agua (point of water) (Madsen 1998b:10). Present-day wells are thought to mark the site of the caravan stop used during the 1829-1850 period*. Madsen (1998b:11) identifies seven different names that were used for the Mojave River: Río de los Martires (Garcés 1776); Las Animas, or Río de las Animas (Lt. Gabriel Moraga, 1819); Inconstant River (Jed Smith 1826); Arroyo de las Hayatas (Armijo 1830); Mohahve River (Frémont 1844); Amahabo Creek (B. Chateau 1848); and Mahave Creek (Pratt 1948).

Site records in the San Bernardino County Museum Archeological Center show segments of the route following along the center of the Mojave River bed or the west side of the river until reaching a landmark known as Point of Rocks*, close to Helendale, where the trail crossed to the east side of the river. Point of Rocks, a prominent bluff, served as a landmark for travelers. A pioneer supply station was established here during the 1850s or 1860s (Haenszel 1986:n.p.). The Helena Fault, which can be seen from the air, was followed by the trail because the fault line allowed water to come to the surface in an otherwise arid area (Walker 1998). (These landmarks are shown on Atlas Sheet No. 73 of the Wheeler survey (1883)).

A short distance out of Barstow, an area near the Mojave River is being set aside and dedicated to the county for a marker commemorating the Old Spanish Trail crossing of the Mojave River. The later wagon road is still visible in this area*. From this area, the route generally ran southwest along what is now Old Route 66 and the National Trails Highway.

Near Oro Grande, the routes postulated by different authors converge, and the conjoined trail crosses the river at the "upper" crossing, or as it came to be known later, "Lane's Crossing"*, after Captain A. G. Lane, who claimed the adjacent lands, and built a home and trading post in the area. Lane's Station, Spring Ranch, and Adelanto Springs are listed on the National Register. (The site may have been the historic Serrano or Vanyume Indian village known as Topipabit.) A. G. Lane raised hay for trade to travelers along the Old Spanish Trail, and, in an effort to protect his livestock, was one of the petitioners who urged keeping Indians away from the waterholes (Walker 1998). He established a store on the trail in 1861.

Just past present-day Victorville, Frémont encountered the stands of Joshua trees that mark the western limits of the Mojave Desert. It was there that Frémont's party connected with the Spanish Trail, running "directly north" (Madsen 1998b:11).

From Lane's Crossing, the trail ran southwest toward Cajon Summit and split into a maze of routes crossing the pass. Records at the San Bernardino Museum Archeological Records Center show a possible Old Spanish Trail route (CA-Sbr-4411) running northeast from the Lane's Crossing area, up the Bell Mountain Wash, and connecting with the main route east of Barstow. A short distance southwest of present-day Mountain View Acres, the road forked. As described by Lt. Beale in 1853, the road

forks about ten miles from the river. The left fork, which we took, follows the Old Spanish Trail, whilst the other, which had been opened recently by the Mormons, makes a bend to avoid a rough portion of country. They both join again in the Cajon Pass (Heap, quoted in Beattie and Beattie 1939:333).

Two of the shortest, most direct, and probably most used routes led to San Bernardino by way of Crowder Canyon and Cajon Canyon (these two routes have been designated part of site CA-Sbr-

4272.)*. (Cajon Pass has been called "*El Cajon de los Mejanos*", "the Cajon", and "*El Cajon de Muscupiabe*." Flooding during the 1930s washed away much of U.S. Route 66 and other early roads.) On the north side of Cajon Pass, wagon ruts originally identified by the Mojave Historical Society as part of the Old Spanish Trail have now been erased by off-road vehicle traffic (Walker 1998). Fragmentary traces of later wagon and automobile roads, such as John Brown's toll road and Old Route 66, are visible along certain areas of the canyon.

During the 1840s, Little Horsethief Canyon (situated east of and perpendicular to Crowder Canyon) was used as a hiding place for livestock stolen by Wakara and Pegleg Smith. Cattle were driven to the Wolfskill Ranch over another, unidentified route "through the brush" and did not pass through the toll road (St. John, n.d.:6).

In 1853, Gwinn Harris Heap described two of the entrances to Cajon Pass then in use—the Sanford Crossing and the Old Spanish Trail. The Spanish Trail route was "favored by pack trains and horsemen because of its shorter distance, while the West Cajon crossing was used by wagons" (Beattie and Beattie 1939:333).

A marker at the junction of Crowder and Cajon canyons commemorates the 500 Mormon pioneers who used the Mormon Road. In 1849, the Mormon pioneers came up the Old Spanish Trail following the pack trail. In the east Cajon Narrows, they were forced to dismantle their wagons, load the contents onto pack animals, and drag the wagon bodies downhill through Crowder (Coyote) Canyon* on poles. The Mormon wagon route known as the Sanford Cutoff came over Baldy Mesa Ridge and West Cajon Fork. This route was developed by William T. B. Sanford, and was used from 1852 until completion of the John Brown toll road in 1861. (This route has been designated California State Historic Landmark 977.) John Brown's toll road* was laid out on the "most direct line, that of the Spanish Trail through the East Cajón" (Beattie and Beattie 1939:337). Another wagon road a mile farther west was built in 1855 to accommodate additional freight wagons from Salt Lake City.

West of today's Interstate I-15 is the wagon road originally known as the San Bernardino to Salt Lake Road of 1855-1856 (the Sanford Pass Route). This alternate route led from the Mormon Rocks area up and over Cajon Pass to rejoin the main road near Victorville. It was considered the easiest wagon route down into the San Bernardino Valley.

On the west side of Cajon Pass, the Old Spanish Trail descended the narrow canyon by means of the route taken by present-day I-15. Mormons who trailed over Cajon Pass in 1851 camped for several months near the lower end of the pass at the site of the present Sycamore Grove while negotiating the purchase of San Bernardino. Fray José María Zalvidea first documented the Serrano *ranchería* of Muscupiabit, one of a series of area Indian camps, in 1806.

From the Cajon Pass area, the original route headed off west-southwest to reach present-day Cucamonga, and thence to El Monte, San Gabriel, and finally, Los Angeles. Today, the few remaining Old Spanish Trail landmarks* include the San Gabriel and San Bernardino mountains, the De Siena Springs site (site of the Vincente Lugo adobe on the San Bernardino Rancho), Mission Drive and Mission Road, Mission San Gabriel, the Agua Mansa cemetery, and the ruins of the old San Salvador Church. Politana was a buffer settlement of New Mexicans established to curtail Indian raids on livestock. From 1833 to 1848, this settlement was the rendezvous and rest stop for trading caravans. It was named after Polito, or Hipolito, who was instrumental in bringing the colonists from New Mexico. The colonists moved from this, the Lugo Rancho, to the Jurupa Rancho (Agua Mansa) in 1845. Agua Mansa commemorates Don Juan Bandini's gift of part of his Jurupa Rancho to the colonists. The

community of Agua Mansa was destroyed in an 1862 flood, but the cemetery and archeological remains of the church remain (California Historic Landmark 121). La Placita de Trujillo was part of the same settlement, but was situated across the Santa Ana River.

San Bernardino Asistencia* was built about 1830 on the San Bernardino Rancho. During the 1840s, its buildings were used by José del Carmen Lugo as part of the Rancho Grant. Later it was sold to the Mormons.

The Los Angeles Plaza* (on the National Register) was relocated to its present location in 1815. The plaza was the focal point of activity and the growth of Los Angeles throughout the Spanish, Mexican, and early American eras. The Plaza Church is only one of a number of significant structures in the plaza area representing this span of time.

Kingston Cutoff. The Kingston Cutoff was developed in the "post-trail era to accommodate wagon traffic" (Madsen 1998b:8). Springs along this cutoff included (from east to west) Horse Thief, Beck, Crystal, and Rabbit Holes. This route, described by Carvalho in 1854, skirted the southern edge of the Dumont Hills. It rejoined the main route toward the north end of the Silurian Valley just south of the Dumont Dunes, another area documented by travelers. Chandless followed the Kingston Springs variant (Cutoff) from the Mormon Road in 1856, and the Wheeler Party used it in 1869-1873. Wheeler campsite number 66 was located along this route.

Landmarks along the main Kingston Cutoff included Kingston Springs and Coyote Holes.

ETHNOGRAPHIC RESOURCES

Other than the New Mexico pueblos and the Mojave villages, no specific sites along the Old Spanish Trail that may be associated with the tribes that occupied territory along the Old Spanish Trail during the early 1800s have been listed. There are several reasons for this omission. Tribes have identified few sites directly associated with the trail route. In addition, ethnographic sites are often places of worship (sacred sites), or they may be sites where special resources may be obtained or where battles or important events took place. In almost all cases, tribes prefer that ethnographic sites not be listed or their locations publicized.

Traders, trappers, explorers, and immigrants on the Old Spanish Trail followed trade and transportation routes developed by American Indians, many of whom still lived in the vicinity of the route during its primary period of use. Numerous Indian pueblos, many dating back centuries, are situated along the Old Spanish Trail in northern New Mexico. During the seventeenth and eighteenth centuries, the Spanish established missions and ranchos in or near most of these pueblos, converting many of the residents to Catholicism and helping to transplant Hispanic culture into northern New Mexico. Santa Fe and villages such as Abiquiú and Taos served as trading centers, where trade goods were collected for transshipment. The majority of these pueblos and Hispanic villages retain much of their cultural heritage and are occupied by descendants of the groups who contributed some of the labor and goods that made commerce on the Old Spanish Trail possible.

Apache territory once covered a large portion of northern New Mexico and southern Colorado in which the Apache maintained a trading relationship with Pueblo groups. Gradually, Apache raiding activities increased, as warfare with the Comanche and expansion of New Mexican (and later American) settlers onto Apache territory decreased their available resource base. During the mid- to late 1800s, the Apache became fierce guerrilla fighters and masters of survival. Sites important to the Apache people are found within the Jicarilla Apache Reservation just south of the Colorado/New Mexico border in north-central New Mexico.

By the time of Mexican independence, the Ute (Utah) Indians had become skilled horsemen, occupying a territory of over 130,000 square miles, most on the Colorado Plateau, in present-day Colorado and Utah. At least seven different bands occupied parts of southern Colorado alone.

The Ute Indians are thought to have traded with the Pueblo Indians of New Mexico before the Spanish arrived. The Spanish probably joined the trade in the early seventeenth century, well before any English or Americans were in the area. Later, the New Mexicans' trade with the Utes was also a means of securing the northern borders of New Spain against perceived threats from the British and the Americans, and as a way to control trade in guns. At first, the various Ute bands were friendly with the American trappers and the New Mexico traders, and often traveled into New Mexico to secure trade items. It is possible that quite a bit of the reciprocal trade between New Mexicans and Utes, especially in slaves and furs, moved along parts of the Old Spanish Trail. Some Ute bands profited greatly from the slave trade, and by capturing or acquiring horses from Euro-Americans. By 1846, as Euro-American settlers crowded into Ute territory, and as game and other resources decreased, the Utes began making forays against settlements in northern New Mexico and southern Colorado. Years of conflict followed, and eventually the United States government concentrated the Ute on reservations in Colorado and Utah.

By the first half of the nineteenth century, at least 16 identifiable groups of Southern Paiute (including the Chemehuevi) occupied the Great Basin in a broad strip of territory extending across southern Utah and southern Nevada, and southward into California and Arizona (Kelly and Fowler 1986:368). Relationships with their linguistic cousins, the Ute, were ambivalent and sometimes hostile. The Southern Paiute lacked the horses held by the Ute, and

were in the unfortunate position of being between Ute raiders on the north and east and Navajos on the south. There were also astride a portion of the Old Spanish Trail, which opened for commerce in the 1830s and became a route for slaving activities [Paiute women and children] were "hunted in the spring of the year, when weak and helpless" (Kelly and Fowler 1986:386).

By the beginning of the twentieth century, most of the Southern Paiute ancestral territory had been lost to settlers and ranchers, and even to the Navajo, in what would become the Western Navajo Reservation (Tiller 1996:213). Today, ten small Southern Paiute groups occupy separate reservations or communities in Utah and Arizona in the San Juan/Colorado River drainage basin.

The Navajo acquired horses and sheep from the Spanish in the 1600s, and became part of the complex trading/raiding/slaving network during the early 1800s. Following American acquisition of the Southwest, the Navajo were rounded up and forced on the infamous "Long Walk" to Fort Sumner, New Mexico.

The Mojave Indians occupied the Mojave Valley, which extends through California, Nevada, and Arizona. They farmed along the Colorado River near Fort Mohave. They traded with coastal Indians, and developed many of the trails connecting desert water holes. Their settlements were small and were

often intermittently occupied. A number of travelers along the Old Spanish Trail visited the Mojave villages; the Mojave periodically occupied Cottonwood Island, above Fort Mohave. Today, Mojave people live on or near the Fort Mojave and Colorado River reservations along the Colorado River in California, Arizona, and Nevada.

After 1830, the Chemehuevi had moved into the southern part of the western Mojave Desert. This movement broke up the traditional trading and travel patterns of the Mojave Indians. By the 1840s, areas such as Willow Springs had "become intermittent campsites for Chemehuevi and other Paiute livestock rustlers" (Love and De Witt 1990:96). By the beginning of the twentieth century, the Chemehuevi were dispersed as non-Indians moved into their lands. It was not until 1971 that a reservation was set aside for this group near Havasu Lake, California. Today, some Chemehuevi reside jointly with groups of Hopi, Mojave, and Navajo Indians on the Colorado River Indian Reservation in California and Arizona.

The Serrano Vanyume Indians occupied parts of the western Mojave Desert, the eastern San Bernardino Mountains, Cajon Pass, and the San Bernardino area (Bean and Smith 1978:570). Between 1820 and 1834, many of the Western Serrano and the Vanyume were moved by the *Californios* into the various missions (Ibid.). Present-day Serranos live on reservations in California.

CULTURAL LANDSCAPES

Through urban development and highway construction, recreational activities, construction of dams, and agriculture, much of the landscape along the Old Spanish Trail has changed radically since the 1800s. However, in a number of areas, the landforms, vegetation, and general configuration of the trail remain much as they were during the heyday of the trail. In northern New Mexico, the adobe dwellings of Indian pueblos and Hispanic villages along the river contrast with the backdrop of snow-capped mountains; these places still retain their historic character and feeling.

Some of the rolling pasturelands of the western San Luis Valley remain remote and largely undeveloped. Away from the freeways and fence lines in western Colorado, southern Utah, and northern Arizona, the stark landscape stretches to the far horizon, and appears to have changed little for over 150 years. Landmarks such as Casa Colorado and Looking Glass Rock were mentioned by travelers, and continue to be visual reminders of the critical importance landmarks played in what was a largely uncharted wilderness.

On Utah's San Rafael Swell, the extensive rock formations and natural tanks at Big Holes, still used for stock watering, are only one of the many trailside landscapes that continue to retain their character and integrity. In southwestern Utah, selective viewsheds replicate scenes described by travelers along the Old Spanish Trail. Many areas of the trail that traverse the several Indian Reservations along the route also retain the feeling of the original journey.

The extremes of desert heat and cold in the Mojave Desert, the difficult overland travel through sand and rocks, the importance of the scattered waterholes, and the long-range vistas of massive stone buttes and mesas have changed little over the past century and a half. This landscape evokes in modern travelers who traverse segments of the Old Spanish Trail a strong sense of place—a place of stark beauty filled with struggle and difficulty. The view from the top of Emigrant Pass cannot help but create in observers a sense of empathy for earlier travelers who struggled to surmount the pass, only to then look southwest at yet another stretch of arid desert. These landscapes communicate the story of the route visually, emotionally, and in a heartfelt way that no words can adequately express.

NATURAL RESOURCES

Climate

With the exception of mountainous high country, the climate along the Old Spanish Trail is generally warm and dry. Average annual rainfall along the route varies widely from traces in the California deserts to more than 40 inches a year in the San Juan Mountains of Colorado. Mean annual temperatures range from the 70s to the 30s along the trail route. This can vary dramatically by season, with May through September being the hottest months. The highest temperatures recorded along the route were over 120 degrees (in the Mojave Desert); the lowest temperatures were more than 60 degrees below zero in Colorado's mountains. Relative humidity is generally quite low when compared with other parts of the nation.

Physiography

The Old Spanish Trail begins in northern New Mexico and runs in a generally westerly or northwesterly direction through the states of Colorado, Utah, Arizona, and Nevada, before ending in southern California, not far from the Pacific Ocean.

In New Mexico, this historic route begins in the Southern Rocky Mountains Physiographic Province—an area of steep, linear, north-south-trending mountain ranges drained, in this area, by the Río Grande. The Northern Route continues north-northwest through the Rocky Mountains, moving along the San Juan River drainage. In the case of the North Branch and its western fork, the trail traverses the 100-mile long, 50+-mile-wide San Luis Valley—a mountain “park” bordered by the Sangre de Cristo Mountains on the east and the San Juans on the west. In northwestern New Mexico, the Northern Route moves northwest into the geologically young Navajo Section, a country of sandstone and shale, which has been subjected to erosion in an arid climate, that has resulted in mesas, cuestras, terraces, escarpments, canyons, and dry washes. As the route enters Utah's red deserts and the Canyonlands Section of the Colorado Plateau Province, the starkly contrasting, deeply cut canyons and plateaus provide a formidable barrier to travel. The Colorado River drains this region.

The North Branch rejoins the Northern Route at Green River in central Utah. The combined route continues southwest into the Great Basin Section of the Basin and Range Province. Most of the section has internal drainage (Thornbury 1965:483), but the Sevier and Virgin Rivers drain southwestern Utah. This great region stretches between the Colorado Plateau and the Sierra Nevada Range, and is characterized by isolated, roughly parallel mountain ranges separated by desert basins.

The Colorado Plateau, an area of canyons and mesas, extends over the northeastern two-fifths of Arizona. This area includes the Grand Canyon of the Colorado River, a feature that played a major role in determining the direction and location of the trail. The remainder of the area traversed by the trail is arid basin land—the Basin and Range Province—punctuated by small mountain ranges (in Nevada, at least 150 north-south trending ranges break the basin and range uplands).

As the trail enters southeastern California and the Mojave Desert, it is, technically, within the Sonoran Desert Section of the Province (Fenneman 1931:367-369).

Like the Great Basin, basin ranges and intervening desert plains characterize the Sonoran Desert. However, the altitude is lower, the ranges are smaller and more isolated, and rock pediments are more prevalent. It is an area of extremely low rainfall. In southern California, the Mojave Desert is drained by the Mojave River, which flows mostly beneath its gravel bed, surfacing only where there is impervious rock. The western end of the Mojave (Antelope Valley) has substantial supplies of subsurface water.

Once the trail crosses Cajon Pass in the Los Angeles mountain ranges (consisting of narrow mountain ranges and broad fault blocks paralleling the coastline), it drops rapidly down onto the alluviated lowlands bordered by the Pacific Ocean.

The elevational gradient along the trail can range from near sea level in the Mojave Desert to over 10,000 feet in the Colorado Rocky Mountains. The eastern portions of the route average between 4,000 and 8,000 feet in elevation; the western desert portions of the route are much lower, with some areas of the Nevada and California deserts measuring less than 500 feet above sea level. Generally, the gradient runs from higher to lower as one travels west.

Soil types include the arid alkaline "brown" soils found in the basin and range country of New Mexico, Colorado, Utah, and Arizona; the thin, stony mountain soils (lithosols) of the Colorado and Utah high country; the gray, often very alkaline desert soils (high in lime or gypsum) of Arizona, Utah, and California; and the Pacific Valley soils found in the valleys adjacent to the Los Angeles ranges of mountains.

Vegetation

Native plants vary greatly along the routes, due to differences in elevation, moisture, area geology, and soils. (Information on plants was synthesized from selected National Park Service publications, as well as *Flora of North America* (1993) and Barbour and Billings (1988). Generally, however, vegetation types can be linked to regional physiography. For example, vegetation along the trail route in the mountainous areas of northern New Mexico is characterized by coniferous trees, including ponderosa pine parkland with a Gambel oak understory in higher elevations, grading into mixed piñon-juniper woodlands on lower, drier slopes. Cottonwoods and willows dominate riparian plant communities. Other common trees include aspen, Douglas fir, spruce, and white fir. In the lower, drier elevations of the Basin and Range Province of northwestern New Mexico, vegetation may include cactuses, creosote bush, greasewood, grama grass, mesquite, shadscale, yuccas, rabbitbrush, and sage.

In Colorado's San Luis Valley, the North Branch ran through a typical rabbitbrush prairie (with occasional cactuses and sparse perennial grasses). Closer to the mountains is a foothill plant community including piñon-juniper woodlands, ponderosa pine, streamside cottonwoods, and a few groves of aspen. Limber pine, white fir, Douglas fir, and Englemann spruce occur farther upslope.

In northwestern Colorado, typical semiarid coniferous cover includes piñon-juniper woodland with intermingled Douglas fir and an understory of scattered brush such as Gambel oak, serviceberry, mountain mahogany, Mormon tea, sagebrush, rabbitbrush, and grasses and herbs. Vegetation in southwestern Colorado is typical of the transition life zone of the high plateau country. In higher elevations, mountain/shrub vegetation includes Gambel oak and various grasses, interspersed with serviceberry and other shrubs. Lower portions of the plateau support a mature piñon pine/Utah juniper forest with scattered small stands of Douglas fir and occasional aspen. Grasslands are dominated by herbaceous vegetation; major grasses are Western wheatgrass, blue grama, junegrass, muttongrass, and needle-and-thread grass, with sagebrush and chaparral in drier areas.

Trail routes in Utah cut through a number of different ecological zones, but generally water is scarce. Blackbrush, shadscale, and Mormon tea cover much of the east-central area of the state, along with Indian ricegrass, needle and thread, galleta, and grama grasses. Big sage, rabbitbrush, and greasewood inhabit sandy-soiled benches that have a good groundwater supply. In areas where crevices provide more moisture, piñons and junipers, cliffrose, mountain mahogany, barberry, and snowberry exist. Near the Green and Colorado rivers are communities of cottonwood, willow, and tamarisk. Western montane conifer forests occupy the central part of the state.

Plants of the Intermountain Great Basin of western Utah are principally cold desert shrubs, grading into the Mojave's warm desert shrubs in the southwestern corner of the state and in northwestern Arizona. Woody species of sagebrush, saltbush, and greasewood are the most characteristic and widespread plants in the northern part of the area; piñon and juniper appear throughout the region in scattered areas.

In south-central Utah, a mosaic of desert grassland, warm desert scrub, and Madrean woodlands and scrublands appears. Because of their wide elevational differences and latitudinal span, the Mojave warm desert plants of southwestern Utah, northwestern Arizona, southern Nevada, and southern California make up a wide variety of vegetation types. However, the most common association of plants is dominated by creosote bush and white bursage. The locations of big sagebrush, shadscale, saltbush, and blackbrush communities found throughout the Mojave are based on temperature, elevation, moisture, and soil. Spiny desert plants such as menodora, wolfberries, Mormon tea, ratany, goldenhead Fremont dalea, catclaw, and yellow paper daisy are common. Many cactuses appear in this area, including chollas, beavertail, and barrel cactus, along with various types of yucca. Distribution of Joshua trees essentially outlines the Mojave Desert, but is elevationally restricted to higher sites.

The California desert contains the same plant communities, along with indigo bushes and burroweeds. Forested areas at higher, mountainous elevations contain aspen, cottonwood, firs, junipers, piñons, pines, scrub oaks, spruces, and alders. California chaparral dominates the foothills from the Sierra Nevada to the Pacific Ocean. "Chapparral" is a collective term used for a number of evergreen shrub species such as manzanita, scrub oak, buckbrush, lemonadeberry, laurel sumac, and mountain mahogany.

Animals

Numerous different types of animals are present along trail routes. Wildlife species common to areas along the Old Spanish trail are listed in Appendix E.

Threatened or Endangered Species

The U.S. Fish and Wildlife Service offices in each trail state have been contacted to identify threatened and endangered animal and plant species that may exist along the Old Spanish Trail. To ensure that such species would be protected, site-specific surveys would be required before any trail-related actions are taken. A complete listing of threatened and endangered plant and animal species found along the route is available upon request to the National Park Service Long Distance Trails Group Office – Santa Fe.

Within New Mexico counties crossed by the trail, one mammal, two birds, three fishes (with designated critical habitat), and two plants are federally listed as endangered species; two birds are listed as federally threatened species; and one bird has been proposed for listing as threatened. One mammal and one amphibian are federal candidate species. The U.S. Fish and Wildlife Service considers 13 mammals, 11 birds, three fishes, one reptile, four invertebrates, two amphibians, one snail, one clam, and 14 plants as species of concern.

One mammal, one bird, four fishes, and three plants are federally listed as endangered species in Colorado. Threatened species include two birds and two plants. One mammal and one bird are proposed for listing as threatened species; one amphibian and one plant are candidate species; and the U.S. Fish and Wildlife Service list two birds as sensitive species.

Species federally listed as endangered within the State of Utah include two birds, one mammal, seven fishes, and four plants. Threatened species include one reptile, two birds, one mammal, and seven plants. Two plants are candidate species. One fish and one amphibian are being managed under conservation agreements and strategies.

In Arizona, 16 species are federally listed as endangered (four mammals, two birds, one snail, five fishes, and four plants). Threatened species include three birds, one reptile, three fishes, and six plants; one bird is proposed for listing as a threatened species. Candidate species include one amphibian and four plants. The California condor is classified as an experimental population, and one plant is being managed under a conservation agreement.

In the two Nevada counties crossed by the Old Spanish Trail, three birds, 14 fishes, and one plant are federally listed as endangered species; two of the fishes have designated critical habitat. Threatened species include two birds, four fishes, one reptile, seven plants, and one invertebrate. One bird has been proposed for listing as a threatened species, and one plant and one amphibian are candidate species. Numerous species are listed as "species of concern," including 41 mammals, 20 birds, 20 fishes, four amphibians, six reptiles, 46 invertebrates, and 97 plants.

Federally listed endangered species for three California counties include one mammal, four birds, one reptile, one amphibian, four fishes, one invertebrate, and 10 plants. One mammal, two birds, two fishes, and one plant are endangered species with critical habitat. Critical habitat has been proposed for one endangered species of fish. Two birds, two fishes, one amphibian, and eight plant species are listed as threatened. In addition, one reptile (threatened species) has had critical habitat designated; critical habitat is proposed for one bird species listed as threatened. One bird species is proposed for listing as threatened. One plant is a candidate species.

Floodplains and Wetlands

The Old Spanish Trail contains some lands that are in a floodplain and/or are wetlands. On the level on which this study was conducted, it is not possible to determine with any precision how many of these areas are on the trail. However, any federal agency involved in trail development would be required to follow Executive Order 11988, "Floodplain Management." This requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains wherever there is a practical alternative. Also, federal policy virtually prohibits federal agencies from taking certain actions in a 500-year floodplain, including the storage of irreplaceable cultural artifacts.

SOCIOECONOMIC RESOURCES

The Northern and Southern Routes of the Old Spanish Trail pass through the New Mexico, Colorado, Utah, Arizona, Nevada, and California counties listed below. The route(s) begin in Santa Fe, New Mexico, current population 55,859. At its western terminus, the route traverses the metropolitan area within and surrounding Los Angeles in California within the counties of San Bernardino (population 1,418,380) and Los Angeles (8,863,164). (Population statistics for these and the following communities are taken from the United States Census tables for 1990.) Smaller cities along the route include Grand Junction, Colorado (29,034); St. George, Utah (28,502); Las Vegas, Nevada (258,295); and Barstow (21,472) and Victorville (40,674), California. While modern highways often follow or parallel the routes, and cities and towns are situated along the corridor, a great deal of the original trail lies within undeveloped areas having very low population density.

The trail passes through the following counties.

New Mexico: Santa Fe, Taos, Río Arriba, Sandoval, San Juan.

Colorado: Alamosa, Archuleta, Conejos, Costilla, Delta, Dolores, Gunnison, La Plata, Mesa, Montezuma, Montrose, Río Grande, Saguache.

Utah: Emery, Garfield, Grand, Iron, Kane, Piute, San Juan, Sevier, Washington.

Arizona: Apache, Coconino, Mohave, Navajo.

Nevada: Clark.

California: Inyo, Los Angeles, San Bernardino.

Seventy percent of New Mexico's gross state product is generated by service industries. Many of the service industries are associated with tourism and are especially important to the state's economy. Several million tourists visit the state each year, contributing billions of dollars to its economy. Much of the state's farm income comes mainly from cattle, dairy products, and sheep, along with grains, legumes and peppers, fruit, and nuts. New Mexico is the nation's major producer of uranium, perlite, and potash ore, and natural gas and petroleum are the state's most important mineral products. Federal and defense projects provide important income for the state.

The Colorado economy includes agricultural income from cattle, winter wheat, and farm produce. Mining and mineral products and mining equipment are important sources of income, as are the manufacturing of military equipment and defense and aerospace electronics. Four-fifths of the gross state product is generated by service industries; including community, business, and personal services; wholesale and retail trade; finance; insurance; real estate; and federal, state, and local governments. The tourist industry is the third largest in the state, with over 7 million visitors per year. In 1995, direct tourist-related spending generated \$6 billion in revenue for the state.

Tourism related to Salt Lake City and the state's ski resorts is an important source of income. Mining (oil, coal, natural gas, and metals) is also a major contributor to Utah's economy. A relatively small amount of arable land in Utah produces livestock (primarily cattle, sheep, and turkeys) and farm produce such as wheat and other grains, sugar beets, hay, vegetables, and orchard fruits. The timber industry harvests Western softwoods, primarily conifers. Manufacturing includes food processing, metal processing, and fabrication, along with high-tech electronics. Seventy-five percent of Utah's

gross state product is generated by service industries, which include community, business, and personal services; wholesale and retail trade; finance; insurance; real estate; and federal, state, and local governments. These are concentrated in the urban areas of the state.

Entertainment and tourism are by far the largest segment of the Nevada economy, attracting more than 30 million visitors a year to the Las Vegas and Reno areas. Eighty-one percent of Nevada's gross state product is generated by service industries, which include community, business, and personal services; wholesale and retail trade; finance; insurance; real estate; and federal, state, and local governments. The state's primary agricultural cash producer is cattle and sheep ranching, along with some grains and truck vegetables. Mining (for example, copper and gold) is a major income producer.

Arizona's economic base includes mining and minerals (especially copper); the manufacture of electrical, electronic, and ceramic products and equipment; and agriculture (feedstocks, cotton, vegetables, and fruits, and beef and dairy products). Seventy-six percent of Arizona's gross state product is generated by service industries, which include community, business, and personal services; wholesale and retail trade; health care; finance; insurance; real estate; and federal, state, and local governments. Tourism brings in more than \$500 million to the state annually.

Seventy-nine percent of California's gross state product is generated by service industries, which include community, business, and personal services; wholesale and retail trade; finance; insurance; real estate; and federal, state, and local governments. Part of the service industry includes tourism, which amounted to 250 million people in 1995. Manufacturing and agriculture are also important to the state's economy.

LANDOWNERSHIP AND LAND USE

Approximately 1,700 miles of the Northern and Armijo Routes of the Old Spanish Trail are within federal land (primarily national forests and parks, and land managed by the U.S. Department of Interior's Bureau of Land Management). Total trail miles are more than 3,500. An additional 500 miles of the trail run through state lands and Indian reservations, and most of the rest of the trail's 1,300 miles are on private land. Some of the trail segments lie within state or county road rights-of-way. The trail crosses several geographic regions, including the Rocky Mountains, the Colorado Plateau, a small segment of the Great Basin, the Mojave Desert, and the Los Angeles Basin. Land use along route alignments varies, from deserts used primarily by recreationists and the military, grassy and shrubby rangelands, intensive agriculture, grazing, low-density rural residential areas, to industrial uses.

New Mexico

Almost a third of New Mexico's land (121,598 square miles) is federally owned; Indian tribes and individuals own or have in trust almost eight million acres. Only a fraction of the state's land has been developed, and this development is focused in the major river valleys. Most of the state is classed as rural, with rangeland occupying the largest percentage of the total. Forty state parks and five state monuments occupy 123,000 acres, and 10 national monuments and seven national forests take up a little over 10 million acres.

Colorado

A little over one-third of the 104,100 square miles of land in Colorado is federally owned or managed; much of this land (over 16 million acres) lies within the state's national forests. There are 766,925 acres of Indian land in the state. Smaller acreages are within the state park (233,000 acres) and national park (597,000 acres) systems. Despite extensive development along the Front Range, most of Colorado is rural, with rangeland, cropland, and forests occupying most of the land area. Around two-fifths of Colorado's land is devoted to agriculture.

Utah

Over sixty-three percent of Utah's 84,904 square miles is federally owned or managed, and Indian tribes and individuals have about two-and-one-third million acres of land. There are six federal reservations in Utah. State parks and recreation areas occupy about 116,000 acres of land; national parks cover over two million acres; and the national forests occupy over nine million acres.

Nevada

Only about 465,000 acres of Nevada land had been developed by 1990, and most of the land area is classed as rangeland. Eighty-five percent of Nevada land (totaling 110,567 square miles) is federally owned or managed, and over a million acres are Indian owned or held in trust. About 142,000 acres are in state parks and recreation areas; together, the national parks and forests occupy around six million acres.

Arizona

In Arizona, over 20 million acres of the state's total 114,006 square miles are Indian owned or held in trust for tribes. Forty-three percent of the land area within the state is federally owned or managed. This includes land managed by the Bureau of Land Management; numerous national historic sites, parks, memorials, monuments, wildlife refuges, and recreation areas; and several national forests. Thirty-nine thousand acres of Arizona land is within state parks and recreation areas; and 14 million acres are in national parks and national forests. Slightly over a million acres is in developed land, mostly in the Maricopa Valley (Phoenix and Tucson metropolitan areas) and Flagstaff areas. The rest of the acreage is divided among rural land, rangeland, and forestlands, with a small percentage in cropland and pastureland.

California

A little less than half (46.4 per cent) of California (163,707 square miles) is federally owned or managed. Indian-owned or trust lands total 586,818 acres. State parks and recreation areas occupy 1,299,000 acres; and national parks and forests hold around 29,000,000 acres. Over four and one half million acres of the state are developed; but more than 49 million acres are classed as rural. Most of this land is in crops, rangeland, and forests. Much of the land along the eastern segment of the trail (in California) is undeveloped. At the west end of the route, the Los Angeles Basin is heavily developed and populated, with private homes, businesses, manufacturing, transportation industries, and so forth.