

3. Affected Environment

3.7 CULTURAL RESOURCES

Cultural resources are defined as prehistoric and historic archeological sites, architectural properties (e.g., buildings, bridges, and structures), and traditional properties with significance to Native Americans. This definition includes historic properties as defined by the National Historic Preservation Act (NHPA). This chapter summarizes the prehistoric and historic resources which may exist in the project area within the San Joaquin River Region and in the downstream Sacramento-San Joaquin Delta. The ethnography of the native people in each region is described in each of the sections.

Prehistoric resource locations can often be predicted by environmental variables, such as water, food, and shelter, because prehistoric occupation and use of the surrounding environment was based primarily on subsistence needs. The prehistoric period in the project area and vicinity is generally agreed upon to begin with the Clovis Period. This period, which extended back more than 11,000 years before present (BP) is represented by the distinctive fluted spear points, called Clovis Points. The points were found on shores of extinct lakes in the San Joaquin Valley, indicating that the native population was composed primarily of hunters. Bones of extinct animals, such as mammoth, sloths, and camels, are found on the same surface as the Clovis Points.

Approximately 8,000 years BP the native populations had switched from hunting to seed gathering, evidenced by food grinding implements. Cultural patterns have become better defined in the last 3,000 years. As populations expanded and specialized adaptations to local resources were developed, the archeological record becomes more complex. Many sites in this period contain mortars and pestles, or are associated with bedrock mortars, which implies that acorns were used extensively. In addition, the range of subsistence resources that were used increased and exchange systems expanded. Well-made artifacts, such as charm stones and beads, indicate that this period demonstrated social stratification and craft specialization (USBR 1997d).

Many above ground historical sites have been identified in the project area. To predict the locations of some historical sites, an understanding of the national, regional, and local historical themes that have influenced historical settlement in California is needed.

Initial Euroamerican incursions began with the Spanish missionaries and soldiers who entered California from the south in 1769. This period is characterized by the establishment of missions and military presidios, the development of large tracts of land owned by the missions, and subjugation of the local native population for labor. With Mexico's independence from Spain in 1822, the mission period in California began to end. Large tracts of land were divided by government grants into large ranchos, often tens of thousands of acres or more.

These large tracts often maintained large herds of cattle and horses, with agricultural development limited to small garden plots and vegetable-growing operations. In addition to the Spanish explorers and settlers, Russians and American explorers made forays into the region.

With the discovery of gold in the mid-1800s and the ensuing gold rush, development and improvement of a transportation system became a necessity in the region. Between 1850 and 1880, California saw the development of hundreds of primary wagon routes, the evolution of steamboat travel along major rivers, and the completion of numerous railroads. Logging in California paralleled the settlement as the new arrivals needed building materials for homes, businesses, and industries.

As settlements grew, agricultural enterprises became more common. Dry-farming practices predominated during the early years until the 1880s when large-scale irrigation systems were developed. The basis for the irrigation systems were the hydraulic mining conveyances. New crops were added to the grains obtained from dry-farming, such as vegetables, fruits, and nuts. The improvements to the transportation systems allowed the distribution of these new crops to the new settlements.

3.7.1 San Joaquin River Region

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The San Joaquin River Region includes Fresno, Mariposa, San Joaquin, and Stanislaus counties, and parts of Calaveras, Merced, Madera, and Tuolumne counties. Agricultural developments in the region have destroyed many archeological sites. Remnants of sites do occur, but they have been highly disturbed.

3.7.1.1 Prehistoric Resources

Although early Holocene (10,000 to 12,000 years BP) people probably inhabited or passed through the west side of the San Joaquin River Basin region, few indications of their activities have been discovered, probably due to deep burial beneath accumulated silt. Evidence of prehistoric occupation of the Sierra Nevada foothills on the east side of the San Joaquin River goes back 9,500 years BP. Recent excavations have revealed details of occupation in the area since approximately 3300 B.C.

The chronological sequence derived from the excavation of San Luis Reservoir best describes the west side of the region, while the excavation of Buchanan Reservoir in Madera County describes the east side. Table 3.7-1 shows the chronology derived from the excavation sites on both sides of the San Joaquin River Region.

The majority of discovered prehistoric sites in the San Joaquin River Region are less than 500 years old. The high Sierra Nevada mountain area is typified by seasonal camps characterized by lithic scatters and few bedrock mortars. The valley/foothill transitional zone often includes sites with midden deposits, structural remains, and numerous bedrock mortars (USBR 1997j).

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Table 3.7-1: PREHISTORIC RESOURCE CHRONOLOGY OF THE SAN JOAQUIN RIVER REGION

West Side		
Period	Dates	Characteristics
Positas Complex	3300 to 2600 B.C.	Small shaped mortars, cylindrical pestles, milling stones, perforated flat cobbles, and spire-lopped olive snail (<i>Olivella</i> spp.) beads
Pacheco Complex	2600 B.C. to A.D. 300	Foliate bifaces, rectangular shell ornaments, thick rectangular <i>Olivella</i> beads in the early phase and spire-ground <i>Olivella</i> beads, perforated canine teeth, bone awls, whistles, grass saws, large stemmed and side-notched points, milling stones, mortars, and pestles in the later phase
Gonzaga Complex	A.D. 300 to 1000	Extended and flexed burials, bowl mortars, shaped pestles, squared and tapered-stem points, few bone awls, distinctive shell ornaments, and thin rectangular, split-punched, and oval <i>Olivella</i> beads
Panoche Complex	A.D. 1500 to 1850	Large circular structures (pits), flexed burials and primary and secondary cremations, varied mortars and pestles, bone awls, whistles, small side-notched points, clamshell disk beads, and other types of beads
East Side		
Period	Dates	Characteristics
Chowchilla Phase	300 BC to AD 550	Fish spears, large projectile points, milling stones, various shell beads and ornaments, atlatl darts, and extended and semi-extended burials with large quantities of grave goods
Raymond Phase	AD 300 to 1500	Milling stones, core tools, relative lack of <i>Olivella</i> beads, absence of abalone (<i>Haliotis</i> spp.) shell ornaments, small- to medium-sized projectile points, bedrock mortars, unshaped pestles, and flexed burials with few grave goods
Madera Phase	AD 1500 to 1850	Steatite disc beads and other steatite objects, small points, bedrock mortars, cobble pestles, various types of <i>Olivella</i> beads, imported brownware pottery, and flexed burials and cremations with a large quantity of artifacts

Source: USBR, Draft PEIS, Technical Appendix Volume Six, 1997.

Table 3.7-2 lists the prehistoric sites by county in the entire San Joaquin River Region and shows approximately what percentage of the county has been surveyed for cultural resources. In addition, information about the locations of the majority of prehistoric resources is included.

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Table 3.7-2: PREHISTORIC SITES BY COUNTY IN THE SAN JOAQUIN RIVER REGION

County	Total No. Recorded Sites	No. of Prehistoric Sites	Percentage of County Land Surveyed	Areas of High Density	Overall Amount of Significant Disturbance in the County
Calaveras	1,527	929	10-15	Stanislaus, N Fork Stanislaus, and Mokelumne rivers; creeks, ridge flats	Low
Fresno	2,891	2,603	5	San Joaquin, Kings, and S Fork Kings rivers; Fancher, White, Panoche, and Dinkey creeks; near Shaver, Huntington, and Millerton lakes, creeks, meadows, ridge flats	Low
Madera	2,074	2,043	1-2	Fresno, San Joaquin, and Chowchilla rivers; Willow Slough; near Millerton and Bass lakes; Crane Valley; near Devils Postpile National Monument; creeks, meadows, ridge flats	Low
Mariposa	1,264	856	5	Merced River; along creeks; in Yosemite National Park	Low
Merced	341	316	2	unknown	Low
San Joaquin	249	189	5	San Joaquin and Mokelumne rivers	Low to Moderate
Stanislaus	350	280	3	Stanislaus, Tuolumne, and San Joaquin rivers; along smaller creeks	Low
Tuolumne	3,540	unknown	10	Stanislaus and Tuolumne rivers; along creeks, ridge flats	Low

Source: USBR, *Draft PEIS, Technical Appendix Volume Six, 1997*.

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3.7.1.2 Historic Resources

Historically, the west side of the San Joaquin River Region was characterized by agricultural settlement. Historic resources include homesteads, economic/industrial facilities, commercial establishments, and government facilities. Due to their establishment during the agricultural development of the valley, numerous rural communities may contain sites and structures of historical significance (CALFED 1998).

The east side of the San Joaquin River Region was characterized by agricultural settlement as well but was also influenced by mining activities. Mining activities were related to the gold rush of the mid-1800s and the subsequent mining activities since the discovery of gold in the Sierra Nevada foothills. The economy of the east side has been based on mining, agriculture, and commercial services since the late 1800s. Historic resources related to the settlement of the east side include mining-related structures and features, railroad grades and associated features, dams and culverts, roads, refuse deposits, and architectural structures (CALFED 1998).

Table 3.7-3 shows the number of resources listed in the NRHP, California Historic Landmarks, California Inventory of Historic Resources, and California Points of Historical Interest by county in the San Joaquin River Region.

Table 3.7-3: HISTORIC RESOURCES BY COUNTY IN THE SAN JOAQUIN RIVER REGION

County	No. of Properties in the National Register of Historic Places	No. of California Historic Landmarks	No. of Sites in California Inventory of Historic Resources	No. of California Points of Historical Interest
Calaveras	13	42	56	4
Fresno (eastern portion)	32	7	33	12
Fresno (western portion)	2	1	9	2
Madera	1	0	10	6
Mariposa	29	8	15	0
Merced	12	5	13	7
San Joaquin	31	23	28	8
Stanislaus	17	5	12	7
Tuolumne	19	20	79	4
Total	156	111	255	50

Source: USBR, *Draft PEIS, Technical Appendix Volume Six*, 1997.

3.7.1.3 Ethnography

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The San Joaquin River Region was inhabited primarily by the Yokuts, Miwok, and Monache Native American cultural groups. The Yokuts culture consists of three primary divisions: the southern San Joaquin Valley Yokuts, the northern San Joaquin Valley Yokuts, and the Foothill Yokuts. In general the Yokuts were seasonally mobile hunter-gatherers with semi-permanent villages. They traveled to temporary camps to exploit the food resources in other environmental zones. The Southern Valley groups relied more heavily on fish, waterfowl, tule roots, seeds, mussels, turtles, shellfish, and rabbits. The Northern Valley Yokuts relied heavily on acorns, along with salmon and other fish. The Foothill Yokuts' primary foods were deer, acorns, pine nuts, and other foothill zone foods.

The Miwok cultures include three primary divisions: the Coast Miwok, the Lake Miwok, and the Eastern Miwok. The Eastern Miwok included five separate groups (Bay, Plains, Northern Sierra, Central Sierra, and Southern Sierra) that ranged over the area from Walnut Creek and the Delta, the lower Mokelumne and Cosumnes rivers and the Sacramento River from Rio Vista to Freeport, the foothill and mountain areas of the upper Mokelumne and Calaveras river drainages, the upper Stanislaus and Tuolumne river drainages and the upper Merced and Chowchilla river drainages, respectively. In general, the Miwok were seasonally mobile hunter-gatherers with semi-permanent villages. Acorns were the staple food among all the groups. Other food sources included buckeye, seeds, bulbs, pine nuts, deer, elk, rabbits, squirrels, fowl, salmon and other fish, bear, and insects.

The Monache, or Western Mono, consist of six separate groups. At least two of the Monache groups appear to be transitional between the Western Mono and Yokut and were bilingual. In general, the Monache lived on the west slopes of the Sierra Nevada, between 3,000 and 7,000 feet elevation. They ranged over a much wider area, including the eastern slopes of the Sierra. Monache groups were seasonally mobile hunter-gatherers. Acorns were their dietary staple and were collected in large quantities and stored for the winter in elevated granaries in the villages. The Monache also ate deer, bear, rodents, birds, insects, manzanita berries, seeds, honey, and fish.

Prior to Euroamerican contact, it is believed that the areas of the Monache and Yokuts were among the most heavily populated areas in California. It has been estimated that up to approximately 180 individuals per square mile may have inhabited this area. It is estimated that by 1910 only 6 to 9 percent of this number survived (USBR 1997j).

3.7.2 Sacramento-San Joaquin Delta

The majority of the Sacramento-San Joaquin Delta has not been surveyed for cultural resources. Most of the early archeological work in the region focused on prominent prehistoric mounds, during which time additional prehistoric sites were identified. Historic sites have been documented primarily during the past 20 to 30 years.

The cultural resource information for the Sacramento-San Joaquin Delta is not broken out as a separate region because the prehistoric and historic information is generally available by county. The resources for this region are summarized below.

3.7.2.1 Prehistoric Resources

Prehistoric sites which have been identified within the Sacramento-San Joaquin Delta include village sites, temporary campsites, milling-related activity sites, and lithic scatters. The prehistoric sites are not evenly distributed across the Delta Region, however. Although channel deposits, floodplains, and basins make up approximately 40 percent of the total acreage within the region, nearly 80 percent of the prehistoric sites are located within these landforms. Those landforms identified as mucks, organic soils, fans, basins, and terraces make up 25 percent of the delta region but contain less than 5 percent of the prehistoric sites. No prehistoric sites have been recorded in peat or peaty mucks. Former tidal wetlands may be sensitive for prehistoric resources where they contain sand dunes and mounds that have been occupied in prehistoric times.

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The landscape of the Sacramento-San Joaquin Delta is radically different today than it was prior to farmland reclamation. Reconstructed watercourses, areas subject to tidal influence, and other surface geology features were used as a basis for generating a predictive model of prehistoric settlement patterns in the south Delta region. Further mapping of extinct watercourses can assist in defining areas of prehistoric site sensitivity (USBR 1997j).

Excavators working in the Stockton area from 1893 to the early 1930s provided the groundwork for the three-phase chronological sequence of the prehistoric period, which was the first system used for central California.

The three cultural levels were identified as early, intermediate, and recent and were based on artifacts and burial orientation and condition. Subsequent archeological research has refined this taxonomic system to where it is now based on cultural patterns which may extend across one or more regions, characterized by particular skills, particular economic modes, and by particular mortuary and ceremonial practices.

Little is known of human occupation of the lower Sacramento Valley prior to 4500 BP. Because of rapid alluvial and colluvial deposition in the valley over the past 10,000 years, ancient cultural deposits have been deeply buried in many areas. The earliest evidence of widespread occupation of the Sacramento-San Joaquin Delta region comes from several sites assigned to the Windmill Pattern. The next phase was the Berkeley Pattern, followed by the Augustine Pattern. Table 3.7-4 details the three periods.

Table 3.7-4: PREHISTORIC RESOURCE CHRONOLOGY OF THE SACRAMENTO-SAN JOAQUIN DELTA

Period	Dates	Characteristics
Windmill Pattern (formerly Early Horizon)	4500 to 2500 BC	Sites on low rises or knolls in floodplains of major creeks or rivers; abundant grave goods and bodies in ventral position; large projectile points, clay net sinkers, bone fish hooks and spears, and abundant faunal remains; charm stones, quartz crystals, bone awls and needles, <i>Halotis</i> and <i>Olivella</i> shell beads and ornaments
Berkeley Pattern (formerly Middle Horizon)	2500 to 1500 BC	Deep midden deposits; abundance of milling slabs, mortars, and pestles; distinct projectile points and faunal remains; quartz crystals, charm stones, projectile point styles, shell beads, ornaments, bone tools; steatite beads, tubes and ear ornaments, slate pendants, flexed burials with variable orientation or cremations and fewer grave goods
Augustine Pattern (formerly Late Horizon)	1500 to 100 BC	Intensified hunting, fishing, and gathering; large, dense populations, highly developed trade networks; elaborate ceremonial and mortuary practices; social stratification; shaped mortars and pestles, bone awls for basketry, bone whistles and stone pipes, clay effigies, bow and arrows, pottery; flexed burials with variable orientation and generally lacked grave goods

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Source: USBR, *Draft PEIS, Technical Appendix Volume Six*, 1997.

Due to the long history of agricultural use, it is unlikely that intact surface or shallow subsurface deposits exist. Subsurface deposits may exist below the plow zone or capped beneath pavement or structures. Surface deposits may exist in areas relatively unaffected by development or agriculture (CALFED 1998).

3.7.2.2 Historic Resources

Potential historic resources in the Sacramento-San Joaquin Delta are largely related to agriculture. Other resources are also present, including farmsteads, labor camps, landings for the shipment of agricultural produce, canneries, pumping stations, siphons, canals, drains, unpaved roads, bridges, and ferry crossings. Labor camps generally consist of at least one wooden bunkhouse or boarding house, a dining hall, a cookhouse, a washroom, and associated buildings. Landings are not elaborate and may consist of a few pilings.

At least 171 sites within the Sacramento-San Joaquin Delta have been listed in the NRHP as individual properties or as districts. Six sites in the region have also been listed as California Historical Landmarks and four are listed as California Points of Historical Interest. Forty known historic sites coincide with prehistoric sites.

Due to the extensive use of the land in historic times, architectural resources are likely to occur throughout the region. However, much of the region is still used for agricultural purposes, and the ground surface is regularly plowed, raked, or tilled (CALFED 1998).

3.7.2.3 Ethnography

The ethnography of the Sacramento-San Joaquin Delta included the Northern Valley Yokuts and Bay Miwoks, which are described above in Section 3.7.1.3, and the Patwin, described here. Most of the western side of the Sacramento Valley north of Suisun Bay was inhabited by Wintun-speaking people at the time of the first Euroamerican contact. The southernmost membership of this population was the Patwin, which held an extensive region west of the Sacramento River from the town of Princeton in the north to Benicia in the south.

Despite their extensive territorial range, relatively little is known of the Patwin culture. The information that does exist about the southern half of the Patwin people has been extrapolated largely from the Patwin peoples to the north. Patwin settlements tended to be located on high ground, along the Sacramento River or tributary streams, such as Cache, Putah, and Ulatie creeks, and in numerous valleys nestled along the eastern side of the Coast Range. Several major settlements, such as the villages of Aguasto and Suisun, were located near the marshy environment of the San Pablo and Suisun bays. The extensive plains to the north and northeast were used primarily for temporary camps, because there was little available firewood and in spring and summer these areas were insect-infested and contained only small quantities of easily obtained food.

Several of the major settlements were very populous and may have contained more than 1,000 people. However, temporary settlements and camps varied in size. Typically, the Patwin settlements ranged from only several residential structures to permanently occupied villages with numerous circular pit houses.

The Sacramento-San Joaquin Delta provided many resources, including an abundant fishery, a wide variety of plant foods, and plenty of game, including tule elk, antelope, and waterfowl. The seasonal availability of these food resources determined the gathering schedule for the Patwins.

The growth of the missions in California significantly impacted the Patwins. Missions Delores, San Jose, and later Sonoma all had potential recruits from the Patwin population. Residents of the village of Aguasots were taken to Mission Delores as early as 1800. The introduction of measles and smallpox significantly reduced the

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number of Patwins, and the further onslaught of Euroamericans and the gold rush of 1849 decided the fate of the Patwin culture. Early ethnographic surveys of the state in 1871-1872 stated that the Patwin culture no longer existed (USBR 1997j).

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