

CALFED

**TECHNICAL REPORT
AFFECTED ENVIRONMENT**

CULTURAL RESOURCES

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TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
SOURCES OF INFORMATION	1
ENVIRONMENTAL SETTING	2
Regulatory Context	2
Delta Region	2
Historical Perspective	2
Archeology	2
Native Peoples	3
Historic Resources	3
Delta Region	5
Current Resource Conditions	5
Archeology	5
Native Peoples	5
Historic Resources	5
Bay Region	6
Historical Perspective	6
Archeology	6
Native Peoples	6
Historic Resources	6
Current Resource Conditions	7
Archeology	7
Native Peoples	7
Historic Resources	7
Sacramento River Region	7
Historical Perspective	7
Archeology	7
Native Peoples	8
Historic Resources	9
Sacramento River Region	10
Current Resource Conditions	10
Archeology	10
Native Peoples	10
Historic Resources	10
San Joaquin River Region	10
Historical Perspective	10
Archeology	10
Native Peoples	11
Historic Resources	12
San Joaquin River Region	12
Current Resource Conditions	12
Archeology	12
Native Peoples	12
Historic Resources	12
SWP and CVP Service Areas Outside the Central Valley	12
Historical Perspective	12

Archeology	12
Native Peoples	13
Historic Resources	13
Current Resource Conditions	13
Archeology	13
Native Peoples	14
Historic Resources	14
REFERENCES - AFFECTED ENVIRONMENT	15
Printed References	15
Personal Communications	21
SUPPLEMENT	S-1

LIST OF TABLES

	<u>Page</u>
Table 1. Summary of Historic Resources Located in the Delta Region	7
Table 2. Number of Formally Recognized Historic Resources in the Bay Region	8
Table 3. Number of Formally Recognized Historic Properties in the Sacramento River Region ...	11
Table 4. Number of Formally Recognized Historic Resources in the San Joaquin River Region ..	13

LIST OF ACRONYMS

A.D.	anno Domini (after Christ)
ACHP	Advisory Council on Historic Preservation
B.C.	before Christ
B.P.	before present
CALFED	CALFED Bay-Delta Program
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CRHR	California Register of Historic Resources
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
GIS	geographical information system
Information Centers	Information Centers of the California Historical Resources File System
MOA	memorandum of agreement
msl	mean sea level
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NSAS	Naval Supply Annex Stockton
PEIS	Programmatic Environmental Impact Statement
SHPO	State Historic Preservation Office
SSRR	Sacramento Southern Railroad Company
STATSGO	State Soil Geographical Data Base
SWP	State Water Project
USGS	U.S. Geological Survey

CULTURAL RESOURCES

INTRODUCTION

This technical report describes characteristics of cultural resources that could be affected by implementation of the CALFED Bay-Delta Program (CALFED). Cultural resources is a broad term that includes archeological sites, historic sites, and traditional cultural properties associated with the values of Native Americans or other cultural groups. Archeological sites consist of the physical remains that prehistoric people left while using the environment. Historic sites can be artifactual debris dating to the historic era or actual buildings and structures. Traditional cultural properties generally are sites, areas, or landforms that are important to a specific Native American tribe or other cultural group. Within the broad range of cultural resources, historic properties are those cultural resources that have recognized significance. Historic properties are defined as any prehistoric or historic district, site, building, structure, or object, included in, or eligible for listing in, the National Register of Historic Places (NRHP).

The archeology and history of the CALFED regions, as well as the native peoples who occupied the study area at Spanish contact, are discussed in this technical report. The Delta Region is emphasized because this area will be the focus of CALFED activities. Historic and prehistoric site locations for the legal Delta have been compiled in a geographical information system (GIS) format. Data for other CALFED regions are presented in less detail.

SOURCES OF INFORMATION

The Delta Region, along with the adjacent areas of the Central Valley, is one of the most intensely investigated areas in the archeology of

California. Because of its position at the geographical center of the state, as a rural region conveniently accessible from urban centers, and as a zone of high prehistoric population density, the Delta has attracted archeological interest for more than a century (Belding 1882, Davis 1907, Holmes 1902, Kroeber 1929, and Schenck and Dawson 1929).

Large-scale systematic excavations were initiated in the 1930s by Sacramento Junior College and the University of California (Lillard et al. 1939). Recent topical reviews have been presented in Dorn (1980), Heizer (1974), and Schulz (1981). Johnson (1976) summarized the numerous studies of prehistoric sites conducted in the Cosumnes drainage. Subsequently, he and his students have added a considerable volume to the area's database. For the upper Mokelumne, Maniery (1991) reviewed the prehistoric and historic database and produced a summary report. Parts of several Delta islands were recently surveyed for prehistoric and historic cultural resources as part of a water storage study (Maniery and Syda 1988). Several documents have summarized the history of the region, particularly Maniery (1993), Paterson et al. (1978), Owens (1991), Schulz and Farris (1994), Thompson (1957), U.S. Bureau of Reclamation (1996), Walker (1992), and Waugh (1985).

These studies were reviewed to provide the prehistoric and historic context of the Delta study area. To assess cultural resource distribution in the Delta Region, information was obtained from the SHPO and the Information Centers of the California Historical Resources File System (Information Centers) at Sonoma State, Sacramento State, and Stanislaus State universities.

Information for the remaining regions is taken and condensed from the Cultural Resources Technical Appendix prepared for the Central Valley Project Improvement Act (CVPIA) Programmatic Environmental Impact Statement (PEIS) (Jones & Stokes Associates 1997).

Regulatory Context

The National Historic Preservation Act of 1966 (NHPA), as amended, and the National Environmental Policy Act of 1969 (NEPA) are important federal laws applicable to the consideration of cultural resources. The Code of Federal Regulations (CFR) Title 36 Section 800 contains the process for consulting with the State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation (ACHP) to ensure that significant historic properties have been considered in planning a project. The expenditure of federal funds by state agencies or private organizations also triggers Section 106.

The California Register of Historic Resources (CRHR) provides a parallel state process. The CRHR is mirrored after the federal NRHP. State California Environmental Quality Act (CEQA) Guidelines, Appendix K, Section III define an "important" archeological resource. The California Historical Landmarks and California Points of Historical Interest programs also recognize important historic sites. State regulations protect historic properties, including CEQA Appendix K, sections of the Public Resources Code, and the State Penal Code. Finally, local counties and cities have adopted policies, plans, and ordinances to protect cultural resources within their respective jurisdictions.

The treatment of human remains is addressed in state and federal laws and regulations. The Archeological Resources Protection Act and the Native American Graves Protection and Repatriation Act apply only to federal lands. State law covers state and nonfederal public and private lands.

HISTORICAL PERSPECTIVE**ARCHEOLOGY**

The Central California culture sequence is based on the stratigraphic differences of funeral patterns, artifact types, and induration (Lillard et al. 1939). Three periods, or horizons, are recognized: the Early Period (now dated approximately 2500 to 500 B.C.), the Middle Period (500 B.C. to A.D. 300), and the Late Period (A.D. 300 to 1840). This has evolved into a new classification (Fredrickson 1974) that defines three major patterns: the Windmill, Berkeley, and Augustine.

The Windmill Pattern is known only from the eastern-Delta Camanche Reservoir area, and adjacent areas of the lower valley from the middle Cosumnes River to Stockton. This pattern, equivalent to the Early Period in this area, has distinctive burial patterns, diagnostic shell ornaments, and stone tool forms. Considerable debate has focused on the subsistence base of these people (Gerow 1974, Heizer 1974, and Schulz 1970, 1981).

The Berkeley Pattern is equivalent to the Middle Period in the lower Sacramento Valley, although earlier phases may coincide with the Early Period in the Bay Area. The Berkeley Pattern is characterized by flexed burial positions, diagnostic ornaments and, in the valley, by bone fish spears or leister points and stone pestles. The diet emphasized fish and acorns.

The Augustine Pattern corresponds to the Late Period in the lower Sacramento Valley. It is marked by the appearance of small projectile points and changes in funerary patterns and ornament styles. These cultures, in general, appear to be ancestral to the ethnographic groups of the same area (Bennyhoff 1961).

The Meganos Complex (Fredrickson 1974), assigned to the Middle and Late Periods, is

characterized by extended burials and by distinct cemeteries disassociated with midden areas. Such cemeteries are known particularly from the sand mounds of Jersey Island, Bradford Island, Bethel Tract, Hotchkiss Tract, and Holland Tract (Cook and Elsasser 1956). This complex shares the same dietary emphasis of the Berkeley Pattern.

NATIVE PEOPLES

The native peoples of the Delta area were divided among five linguistic groups, all belonging to the Penutian language stock. The far northeastern part of the Delta Region was occupied by the Valley Nisenan, the eastern part and far western part by Plains and Bay Miwok speakers, the southern part by the Northern Valley Yokut, and the north shore of the Suisun Bay area by the Patwin. Despite sharing the same environment, there were distinct material cultural differences among the five groups (Bennyhoff 1977: 47).

The Plains and Bay Miwok are members of the Utian family of the Penutian stock languages (Shipley 1978). The boundaries and divisions of the Miwok are based largely on linguistic evidence (Bennyhoff 1977, Kroeber 1925, Levy 1978, and Schenck 1926). The Miwok were intensive collectors; they occupied large, fixed, multilineage villages (tribelets) located on high ground generally adjacent to watercourses. Most villages were occupied permanently except during short periods of harvesting. Camps for fishing and hunting also were part of the settlement system.

The Northern Valley Yokut were semi-sedentary, with principal settlements on low mounds or levees on or near the banks of major watercourses. Loosely centralized tribes headed by a chief (the position of which was inherited) were tied to one or more principal villages. Secondary settlements consisted of small camps or villages of several households. Next to settlements, there were fishing stations, hunting camps, and lithic-tool-manufacturing sites. The early disruption of Yokut-speaking people resulted in little ethnographic information.

(Bennyhoff 1977, Schenck 1926, Schulz 1981, and Kroeber 1925.)

The term "Patwin" refers to several tribelets of people who occupied the west side of the Sacramento Valley extending from Suisun Bay north to just above the town of Princeton on the Sacramento River (Johnson 1978). Patwin tribelets generally occupied one primary and several satellite villages; some contained as many as 1,000 or more persons (Powers 1976). Each tribelet had a sense of territoriality and autonomy (Johnson 1978). Their subsistence, like that of their neighbors, was based on hunting, gathering, and fishing. Details on the lifeway of Patwin are little known because they were among the earliest groups in the region to be affected by missionization and introduced diseases. By 1871 to 1872, when Stephen Powers surveyed the state while gathering ethnographic information, the Patwin culture no longer existed.

The destruction of native Delta cultures was the result of several factors. Even before explorers and settlers made extensive contact, the missions drew Native Americans away from their villages. An 1833 epidemic, possibly malaria, killed thousands, and numerous villages were abandoned. The secularization of the missions in 1834 affected native societies. Elimination of the mission system caused Native Americans of various cultural affinities to retreat into areas of previous cultural homogeneity (Wallace 1978). Final collapse of the Delta cultures occurred when, after the Gold Rush, waves of American settlers converted native territory into agricultural fields. Village mounds of the native peoples were abandoned, reoccupied by farmhouses, buried under levees, or leveled for agriculture.

HISTORIC RESOURCES

The first non-native intrusion into the Delta Region occurred in 1775, when a Spanish explorer named Carnizares entered Suisun Bay. Although the Spanish generally avoided the area, the Delta Region was a haven for native peoples resisting Spanish Franciscan missionization. With hope of creating stability

in the interior, and to build a buffer zone for coastal areas, California's Mexican-appointed governors awarded land grants in the Delta Region. Paso del Pescadero was granted in 1843. Other Mexican land grants extending into the area included Los Medanos (1835), Los Ulpinos (1844), and John Sutter's New Helvetia (1841) (Beck and Haase 1974, Hoover et al. 1990).

Settlement in the Suisun Marsh area began with the establishment of Suisun City in 1850. Major settlements clustered around the marsh's periphery. Vacaville was platted in 1851 and formally established in 1852 (Storey 1996). Establishment of the towns of Cordelia, Rio Vista, Fairfield, Rockville, and Vallejo soon followed. The intrusion of saltwater into the marsh led to the abandonment of agriculture.

Walnut Grove served as the center of social and economic life for many Chinese and Japanese seasonal agricultural workers. The Chinatown is known to have been established by 1885. By 1910, the Asian-American community included hotels; restaurants; and dry goods, drug, mercantile, and grocery stores (Ariki 1979: 2). Other Asian-American communities flourished in Stockton, Isleton, Courtland, Locke, and Rio Vista and served as centers for the rural farm laborers. Other ethnic labor groups included Italians, East Indians, Filipinos, and Portuguese. Today, Mexicans and Mexican-Americans compose the largest ethnic labor group.

American entrepreneurs saw Delta peat soils as potential farmland. The majority of the lands in the Delta, however, were subject to periodic flooding. The Swamp and Overflow Land Act of 1850 opened up the land for speculation (Thompson and West 1879). By 1871, nearly all land had been sold (Owens 1991: 19), with some farms exceeding 100,000 acres.

The Tide Land Reclamation Company, one of the first to operate in the Delta, partially reclaimed Union Island in 1872 (West 1996). During levee construction, gates were built to release water at low tide (Thompson 1957: 275-276). Farmers experimented with pumps powered by horses as early as the 1870s. These

were replaced quickly by steam-driven machines, and by 1920 all pumps were electrical. Over the last 80 years, all the levees have been modified, and none of the original levees remain intact.

Transportation around the Suisun Marsh during the early 1800s was primarily by water, although the Pony Express route skirted the edge of the marsh in 1860 and 1861 (Storey 1996). In addition to sail and steamships, small boats, barges, launches, and schooners also provided access to the Delta. Ferrys were used during the historic era. The Southern Pacific Railroad Company organized the Sacramento Southern Railroad Company (SSRR) in 1903 (Maniery 1992). The SSRR became a branch line feeder of the Southern Pacific system (State of California 1980: 19). This line was mostly elevated (Maniery 1992) to protect against flooding. At least two sections of railroad lines have been determined eligible for the NRHP, the SSRR and a spur on the Walnut Grove Branch Line.

The industries of canning, sugar refining, and brick making were attracted to the Delta Region. The first cannery in the Delta Region was established in Yolo County to pack salmon. Although no physical remains are left, the cannery is listed in the NRHP as well as in the California Inventory of Historical Resources. The asparagus boom largely was responsible for the canning industry in the Delta, but by 1940 most had ceased operations. Sugar refining was widespread in the 1870s. The California and Hawaiian Sugar Company, C & H Sugar, began in 1906. This company now operates in the Delta and produces more refined sugar in 3 weeks than was turned out in its entire first year of operation.

Brick manufacturing began as little more than a cottage industry, but between 1878 and 1895, two factories operated at Freeport and near Benson's Ferry. With kilns situated on the riverbanks and clay being obtained from nearby pits, the Freeport plant produced and shipped to San Francisco 2,000,000 bricks in 1878 and 4,500,000 the following year (Schulz and Farris 1994: 60).

Other major influences on the Delta included water management projects started in the 1930s, especially the Central Valley Project (CVP). The majority of these projects involved creating reservoirs to store irrigation and domestic water, and resulted in reduced water flow through an area already altered by reclamation. These projects significantly altered the Delta and marsh environments. Wetlands management for waterfowl production and protection began in the 1920s and 1930s when hunting clubs began moving into the Suisun Marsh area. Today, other hunting and wildlife protection organizations and the California Department of Fish and Game also maintain waterfowl lands.

Delta Region

CURRENT RESOURCE CONDITIONS

ARCHEOLOGY

Relatively little systematic inventory of the Delta has been accomplished despite large-scale impacts from widespread agricultural development. Prominent prehistoric mounds attracted the interest of early archeologists, and many sites were documented. Approximately 80% of the known prehistoric sites were recorded prior to 1960.

Late prehistoric sites are found along the 1850 tidal line and on sandmounds within 10 feet of sea level. Approximately 90% of the sites in the study area are located beneath an elevation of 15 feet mean sea level (msl). The majority of sites are positioned in a band between sea level and 10 feet msl. The few radiocarbon dates available from prehistoric sites indicate that all date to less than 4500 years before present (B.P.), the upper two-thirds of the Holocene (Schulz 1981). Finding earlier sites is important because they might clarify the role that sea level changes and subsidence had in cultural development during the Holocene. Buried sites are present within the Delta Region.

The GIS mapping of recorded prehistoric sites shows that archeological sites are not evenly spread across the Delta Region. For example, although channel deposits, floodplains, and basins compose approximately 40% of the total acreage within the Delta, nearly 80% of prehistoric sites are located within these landforms. In contrast, those landforms identified as mucks; organic soils; and fans, basins, and terraces compose 25% of the study area landmass and contain less than 5% of the prehistoric sites. In fact, aside from isolates, no prehistoric cultural deposits have been reported in peat (>50% organics) or peaty mucks (25 to 50% organics). Tidal wetlands deserve special mention because they contain sand dunes and mounds that provided opportunities for prehistoric occupation.

The landscape of the Delta is different today than it was prior to farmland reclamation. Reconstructed watercourses, areas presently and formerly subject to tidal influence, and other features of surface geology (Atwater 1982) were used as a basis for generating a predictive model of prehistoric settlement patterns in the south-Delta Region (West 1994). Further mapping of extinct watercourses can help define areas of sensitivity for buried archeological sites. Age-dating the sediments on which sites are found may be useful in predicting the location of same-period sites.

NATIVE PEOPLES

No reservations or rancherias are located within the legal Delta. A review of the primary ethnographic literature for the Delta Region and contact with the Native American Heritage Commission revealed no traditional properties or sacred sites.

HISTORIC RESOURCES

Potential historic resources in the study area are largely related to agriculture; however, other types of resources also are present, including farmsteads, labor camps, landings for the shipment of agricultural produce, canneries, pumping stations, siphons, canals, drains, unpaved roads, bridges, and ferry crossings.

Forty known historic sites are located on top of prehistoric sites. Labor camps generally consisted of at least one wooden bunkhouse or boarding house, a dining hall, a cookhouse, a washroom, and associated buildings. Landings, for the most part, were not elaborate, consisting of a few pilings or a dolphin. At least three ferry crossings are present in the study area. Table 1 provides a summary of historic resources located in the Delta Region.

More detailed information on Current Resource Conditions for the Delta Region can be found in the Supplement to this technical report.

Bay Region

HISTORICAL PERSPECTIVE

ARCHEOLOGY

The earliest known occupation of the San Francisco Bay Area took place by approximately 8000 B.C. Several radiocarbon dates from sites throughout the Bay Area indicate that populations of hunter-gatherers were sparse by approximately 5000 B.C. This Archaic Period is characterized, like the Sur Pattern identified in the Monterey area, by generalized hunting and gathering subsistence. Midden deposits contain a wide variety of faunal remains, but shell is only a minor constituent.

By approximately 2500 B.C., the Berkeley Pattern appears in the East Bay Area. It has been hypothesized that the Berkeley Pattern "...represents Utian (Miwok-Costanoan) cultural developments and geographic spread throughout the Bay and northern Central Coast regions. Old Berkeley Pattern components share many traits with those of the Windmill Pattern, suggesting a common origin..." (Moratto 1984). It is believed that there was continuous occupation by Costanoan people for more than 2,000 years (Moratto 1984).

NATIVE PEOPLES

The Costanoans are a linguistically defined group composed of several autonomous tribelets speaking eight different, but related, languages. The Costanoan languages, together with Miwok, compose the Utian language family of the Penutian stock (Levy 1978). The territory of the Costanoan people extended along the coast from San Francisco Bay in the north to just beyond Carmel in the south and approximately 60 miles inland (Breschini et al. 1983). Information about the Costanoans has been summarized by Levy (1978).

The Costanoans were hunter-gatherers, relying heavily on acorns and coastal resources; however, a wide range of other foods also was exploited. These sources included various seeds (growth was promoted by controlled burning), buckeye, berries, roots, land and sea mammals, waterfowl, reptiles, and insects. Tule balsas for watercraft, bows and arrows, cordage, sea otter blankets, and twined basketry were made (Levy 1978), as was the usual range of lithic and bone tools. In Costanoan religion, prayers and offerings were practiced, as were shamanism and witchcraft. Marriages were polygamous, households were generally composed of patrilineally extended families, and clans and moieties were the basis for group identification.

In 1770, the time of the establishment of the first mission in Costanoan territory, the population numbered an estimated 10,000, but it declined to less than 2,000 by 1832 because of introduced disease and a decreased birth rate (Levy 1978). Missionization of the Costanoans virtually destroyed these people.

HISTORIC RESOURCES

The Bay Region is characterized by urban and suburban development since the mid-1800s. The area has been a major shipping, manufacturing, military, and commercial center for all of northern California since the 1860s. Historic/architectural resources are related to the settlement of the region and include economic/industrial facilities, residential properties, commercial establishments, military installations, and government facilities.

County	State Trinomial ^a	NRHP District	NRHP Individual Properties	California Historical Landmarks	California Inventory of Historical Resources	California Points of Historical Interest
Alameda	1	-	-	-	-	-
Contra Costa	18	2	85	2	-	-
Sacramento	4	5	11	-	-	-
San Joaquin	35	1	29	4	2	1
Solano	18	-	1	-	-	1
Yolo	<u>1</u>	<u>-</u>	<u>37</u>	<u>-</u>	<u>1</u>	<u>-</u>
Total	77	8	163	6	3	4

NOTES:

NRHP = National Register of Historic Places

Numbers are based on available data and may not be all inclusive (table adapted from Jones & Stokes Associates 1997).

^a State trinomial refers to a unique three-part number given to formally recorded historic and prehistoric sites.

Table 1. Summary of Historic Resources Located in the Delta Region

CURRENT RESOURCE CONDITIONS

ARCHEOLOGY

Considerable industrial and residential development in the Bay Region has taken a toll on archeological resources. Prehistoric and historic sites have been destroyed by urban development and by industrial construction. Archeological sites remain in areas that have not been fully developed. Subsurface deposits also can be found capped under asphalt and below buildings.

NATIVE PEOPLES

There are no formal reservations or rancherias present in the Bay Region; however, a number of Native Americans live in the area. Mount Diablo is a well-known landmark that holds mythic importance to the Costanoans (Kroeber 1925: 472) as part of one of their creation myths.

HISTORIC RESOURCES

Numerous historic properties are recognized as historically significant under state and federal

programs. At least 407 prehistoric and historic sites are listed in the NRHP for the Bay Region. Table 2 provides the number of formally recognized historic sources in the Bay Region. Many of these are historic buildings located in urban areas. There are 176 California Historical Landmarks in the same area. Historic preservation programs, societies, and organizations are active in the Bay Region.

Sacramento River Region

HISTORICAL PERSPECTIVE

ARCHEOLOGY

The northern Sierra Nevada foothills appear to have been first used by Great Basin people around 6000 B.C. By approximately 2000 B.C., people were seasonally hunting and gathering in the higher elevations and apparently also extended well into the Sacramento Valley. Their material culture has been termed "Martis." Four additional prehistoric phases or complexes comprise the archeological sequence for this

County	NRHP	California Historical Landmarks	California Inventory of Historic Resources	California Points of Historical Interest
Alameda	113	33	221	36
Contra Costa	25	12	108	10
Marin	33	13	30	4
San Mateo	39	34	75	34
San Francisco	121	43	141	12
Santa Clara	<u>76</u>	<u>41</u>	<u>149</u>	<u>60</u>
Total	407	176	724	156

NOTES:

NRHP = National Register of Historic Places

Table adapted from Jones & Stokes Associates 1997.

Table 2. Number of Formally Recognized Historic Resources in the Bay Region

area, based on settlement patterns, projectile point forms, and other artifacts. The Mesilla Complex (approximately 1000 B.C. to A.D. 1), Bidwell Complex (A.D. 1 to 800), Sweetwater Complex (A.D. 800 to 1500), and finally the Oroville Complex (A.D. 1500 to 1833) represent the chronology for this area. The epidemic of 1833 marks the end of the Oroville Complex.

The earliest occupants of the west side of the Sacramento River Region are believed to have been Hokan speakers whose material culture closely resembled the assemblages of the Borax Lake and Mendocino complexes dating to a similar time period (about 4500 B.C. to A.D. 200). Large, wide-stemmed projectile points, manos, and milling stones are frequently encountered artifact types.

By approximately A.D. 200, Penutian-speaking people entered the region and eventually displaced the Hokan occupants in many areas. The archeological expressions of this late prehistoric period in Yana territory are represented in the Mill Creek and Dry Creek complexes (Dondero et al. 1982), contemporary with the Shasta Complex. Sundahl (1982) distinguishes Tehama Pattern peoples (Yana Indians) from Augustine Pattern peoples (Shasta Complex, ancestors of the ethnographic and historic Wintu Indians).

NATIVE PEOPLES

Seven Native American groups occupied the general area of the Sacramento River Region. These groups are divided into two language stocks. The Wintuan and Maidu linguistic families are derived from the Penutian language stock. The Maidu, Konkow, and Nisenan speak variations of the Maidu Family, whereas the Wintun, Nomlaki, and Patwin are separated into the Wintuan Family. The Patwin are briefly described in the Delta Region. The Yana, found in the north east portion of the Sacramento River Region, speak a language derived from the Hokan stock (Shipley 1978).

The Maidu (also known as northeastern Maidu), Konkow (also known as northwestern Maidu), and Nisenan (also known as southern Maidu) inhabited an area of California from Lassen Peak to the Cosumnes River, and from the Sacramento River to Honey Lake. The division of these three groups is based on language differences and geographic location. Politically, the Maidu, Konkow, and Nisenan were organized around the tribelet. Each tribelet was composed of several villages, and when needed for group decisions or group activities, the headman of one of the villages in a tribelet was selected to be the leader. The histories of these groups closely parallel one another and other native groups in California.

The subsistence strategy of the Maidu, Konkow, and Nisenan involved seasonally mobile hunting and gathering. Acorns, the primary staple, were gathered along with seeds, buckeye, salmon, insects, and a wide variety of other plants and animals. Because their territory was largely a mountainous one, these groups relied more heavily on hunting than did the other people.

The western side of the Sacramento River Region north of Suisun Bay was inhabited by Wintuan-speaking people. Linguistic analysis has divided these speakers into the Patwin (southern group), Nomlaki (central group), and Wintu (northern group). The central and northern groups closely related to one another and are combined for this discussion.

Wintu and Nomlaki subsistence was based on three main staples: deer, acorns, and salmon. All three were abundant within the western Sacramento Valley. These staples were supplemented with an immense array of less-abundant resources, some seasonally available and some procurable year-round. Deer were a major dietary staple; they were hunted individually and communally (Du Bois 1935). The acorns of black and valley oak were preferred. Salmon availability has been used as a variable to assess prehistoric population levels (Baumhoff 1963). Salmon exploitation is considered a major determinant of site distribution (Raven et al. 1984). Other food resources included a wide range of mammals, birds, reptiles, fish, shellfish, and plants.

The Nomlaki and Wintu were greatly affected by the 1833 malaria epidemic, and they never overcame the devastating effects of this epidemic. Following the arrival of miners and settlers, the Nomlaki and Wintu suffered further reductions in population. Eventually, survivors were moved to reservations and camps. By the 1930s, three Nomlaki rancherias of six households each remained, with the men serving primarily as casual or migratory laborers (Goldschmidt 1978).

The Yana were hunter-gatherers who relied heavily on the acorn crop, their primary food source. Other important food resources included deer, bear, antelope, elk, salmon,

rabbits, quail, insects, rodents, river mussels, various roots, tubers, bulbs, seeds, buckeyes, pine nuts, and berries. The Yana material culture includes a wide range of tools made from bone, antler, wood, and stone. Baskets were made, but they were apparently of relatively poor quality. Tribelets served as the principal political organization.

The first European contact of the Yana may have occurred as early as 1821, when a mission-military expedition entered their territory. Overall, mining and settlement had little effect on the Yana. In 1846, however, Captain Fremont attacked and killed several Yana. The ensuing years brought several massacres, which resulted in the nearly total elimination of the Yana-Yahi people.

HISTORIC RESOURCES

Settlement of the Sacramento River Region is characterized by agricultural development on the valley floor and by mining in the Sierra Nevada foothills. Agricultural activities are based on the establishment and development of commercial crops, accessibility to markets, new farming techniques, and irrigation. Agriculture has been important in the region since the late 1800s, after failed miners searched for alternative income.

Mining activities in the region are related to the discovery of gold at Sutter's Mill along the South Fork of the American River in 1848. Initially armed with pans and picks, miners later used powerful hydraulic hoses to search for gold. Major gold mining activity took place along most rivers flowing from the Sierra.

The economy of the Sacramento River Region has been based on mining, agriculture, and government services since the late 1800s. Historic resources are related to the settlement of the region and include mining features, homesteads, economic/industrial facilities, residential properties, commercial establishments, and government facilities.

Sacramento River Region

CURRENT RESOURCE CONDITIONS

ARCHEOLOGY

The massive agricultural development and urban development of the valley floor has significantly damaged many archeological sites. Prehistoric mounds have been leveled, and sites have been repeatedly disced and plowed in agricultural fields. Nevertheless, intact archeological deposits may occur in buried contexts, beneath the plow zone, or under asphalt parking lots.

The foothill regions of the Sacramento River Region contain undeveloped areas where archeological and historic sites are found. Acorn processing sites are commonly found in the oak woodland. According to a site-density model prepared for the American River Water Resources Investigation (West, Welch, and Hansen 1995), the foothills and granite-based upland areas contain a projected 3.5 and 2.8 sites per square mile, respectively. Habitation sites and bedrock mortar or other milling sites are the most common types found in these areas.

NATIVE PEOPLES

There are 19 reservations or rancherias in the counties that comprise the Sacramento River Region. However, some of these reservations fall outside the boundaries of the study area. There are also an unknown number of Public Domain allotments within the region.

Many natural or geologic features are traditionally considered sensitive or sacred. As examples of the sacred natural landscape, the Konkow and the Maidu considered the Sutter Buttes to be the location from which spirits of the dead left for the afterworld (Kroeber 1925: 439). Butte Mountain is the site of the first Hesi ceremony performed by ancestors of the Nisenan. The Nomlaki considered Lassen Butte as the home of a mythical figure (Curtin 1898). Marysville Buttes and Mount Shasta are places

of mythical importance to the Patwin (Kroeber 1932) and Wintu, respectively.

HISTORIC RESOURCES

Many sites are recognized as historically significant under state and federal programs. At least 294 sites within the Sacramento River Region have been listed on the NRHP as individual properties or as districts. In addition, 224 sites in the region have been listed as California Historical Landmarks, and 196 are listed as California Points of Historical Interest. Many of these properties fall outside areas of potential impact. Table 3 lists the number of formally recognized historic properties in the Sacramento River Region.

San Joaquin River Region

HISTORICAL PERSPECTIVE

ARCHEOLOGY

The sequence for the east side begins some 9,600 years ago and is characterized by hunters and gatherers who used distinctive stemmed spear points. The Chowchilla Phase, the next described archeological culture, dates from 800 B.C. to A.D. 550 and is characterized by fish spears, large projectile points, milling stones, various shell beads and ornaments, and atlatl darts. Extended and semi-extended burials with large quantities of grave goods are also associated with this phase. The Raymond Phase, (A.D. 300 to 1500) and the Madera Phase (A.D. 1500 to 1850) are distinguished by milling stones, core tools, projectile point types, and various shell ornaments. The later Madera Phase is noted for bedrock mortars and imported ceramics as well as cremations in addition to flexed burials.

The sequence for the west side begins with the aforementioned Windmill Pattern. Work at the San Luis Reservoir (Olsen and Payen 1969, 1983; Pritchard 1970) produced chronological descriptions. The Positas Complex (5,250 to

County	NRHP	California Historical Landmarks	California Inventory of Historic Resources	California Points of Historical Interest
Amador	15	23	43	5
Butte	24	9	31	19
Colusa	5	3	6	3
El Dorado	16	29	40	8
Glenn	2	2	17	17
Napa	57	17	31	11
Nevada	19	18	46	35
Placer	13	20	27	18
Sacramento	69	56	43	16
Shasta	22	19	41	15
Solano	18	14	30	7
Sutter	0	2	22	21
Tehama	8	4	13	1
Yolo	18	2	37	8
Yuba	<u>8</u>	<u>6</u>	<u>25</u>	<u>12</u>
Total	294	224	452	196

NOTES:

NRHP = National Register of Historic Places

Numbers include total sites for county. Some sites may be outside actual region (table adapted from Jones & Stokes Associates 1997).

Table 3. Number of Formally Recognized Historic Properties in the Sacramento River Region

4,550 years ago) includes cylindrical pestles, milling slabs, mullers, "doughnut stones," and other chipped stone tools (Olsen and Payen 1969). The Pacheco A Complex (approximately 3,550 to 1,650 years ago) includes beads, abalone ornaments, distinctive bone artifacts, polished stone objects, mortar and pestle, rectangular milling slabs, mullers, and stemmed or side-notched projectile points (Olsen and Payen 1969).

Late prehistoric archeology is represented by the Gonzaga Complex (1,650 to 950 years ago). Burials from this time period are predominately extended, with some semi-flexed inhumations. Artifacts include a variety of bead types, bone tools, ear plugs, large bowl mortars, slab milling stones, and mullers. Projectile points are rare. The Panache Complex (450 to 150 years ago) holds relationships with the areas south of the complex as well as the Sacramento-San Joaquin

Delta (Haversat and Breschini 1985). The Gonzaga and Panache complexes fall within the Augustine Pattern era.

NATIVE PEOPLES

The Yokut and Miwok peoples once found in the San Joaquin Valley Region are described in the ethnographic section for the Delta Region. One other group merits mention for this region. The Monache, or Western Mono, represent six separate but linguistically affiliated groups. The Monache are generally distinguished from the Foothill Yokut by language and location, rather than by cultural traits. The Monache language is classified within the Numic family, or Uto-Aztecan stock, found in California only with the Monache and Eastern Mono. In general, the Monache lived on the west slopes of the Sierra Nevada, between 3,000 and 7,000 feet elevation. Monache groups were seasonally

mobile hunter-gatherers. Acorns, their dietary staple, were stored for winter. A wide range of other plant and animal resources also were used. The Monache produced twined basketry (including cradles), steatite cooking vessels, and ceramic vessels (coil-method and fired) besides the usual array of lithic and bone implements.

HISTORIC RESOURCES

The San Joaquin River Region is characterized by both agricultural settlement and mining. Agricultural development encompasses most of the valley floor and was started by failed miners. Mining activities are related to the Gold Rush of the late 1800s and the subsequent commercial extraction of ore. The economy of the east side of the region has been based on mining, agriculture, and commercial services since the late 1800s. Historic resources are related to the settlement of the east side of the region and include mining features, homesteads, economic/industrial facilities, residential properties, commercial establishments, and government facilities.

San Joaquin River Region

CURRENT RESOURCE CONDITIONS

ARCHEOLOGY

As in the Sacramento River Region, vast agricultural development in the San Joaquin River Region has destroyed many prehistoric sites. Remnants of prehistoric sites still occur in agricultural lands, but they have been highly disturbed. Prehistoric sites are found along the San Joaquin River and its associated sloughs. Buried sites are possible in this area due to the high rate of sedimentation.

NATIVE PEOPLES

Eight reservations or rancherias are located in the counties that comprise the San Joaquin River Region, although some of these

reservations may fall outside the boundaries of the region. There are also an unknown number of Public Domain allotments within the region. The Monache have several places of mythological importance. For example, Table Mountain near Friant was thought to be visited by mythical beings (Gifford 1923).

HISTORIC RESOURCES

Many sites are recognized as historically significant under state and federal programs. At least 156 sites within the San Joaquin River Region have been listed on the NRHP as individual properties or as districts. In addition, 111 sites in the region have been listed as California Historical Landmarks, and 50 are listed as California Points of Historical Interest. Many of these properties fall outside areas of potential impacts. Table 4 lists the number of formally recognized historic resources in the San Joaquin River Region.

SWP and CVP Service Areas Outside the Central Valley

HISTORICAL PERSPECTIVE

ARCHEOLOGY

The CVP and State Water Project (SWP) Service Areas Outside the Central Valley have a long and complex cultural history with distinct regional patterns that extend back more than 10,000 years. The first generally agreed upon evidence for the presence of prehistoric peoples in this region is represented by paleo-Indians.

Approximately 8,000 years ago, many California cultures shifted the main focus of their subsistence strategies from hunting to seed gathering, as evidenced by the increase in food-grinding implements found in archeological sites dating to this period. This cultural pattern has been called the Milling Stone Horizon (Wallace 1954). Cultural patterns as reflected in the archeological record, particularly specialized

County	NRHP	California Historical Landmarks	California Inventory of Historic Resources	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	<u>19</u>	<u>20</u>	<u>79</u>	<u>4</u>
Total	156	111	255	50

NOTES:

NRHP = National Register of Historic Places

Numbers include total sites for county. Some sites may be outside actual region (table adapted from Jones & Stokes Associates 1997).

Table 4. Number of Formally Recognized Historic Resources in the San Joaquin River Region

subsistence practices, became more complex within the last 3,000 years.

NATIVE PEOPLES

This region once encompassed the territory of many different groups that spoke the language of Hokan and Uto-Aztecan stocks, including the coastal Salinan and Chumash in the northern portion of this region. The Kumeyaay occupied portions of San Diego County and Baja California. The Uto-Aztecan groups named the Luiseno and Gabrielino, after Spanish missions in their respective territory, are located between the Hokan groups. Inland Uto-Aztecan speakers include members of the Cahuilla, Kitanemuk, Tataviam, and Cupeno tribes.

HISTORIC RESOURCES

Settlement of this region is characterized by agricultural development, commerce, and urban growth. The major port cities of Los Angeles and San Diego served as early hubs of development. Surrounding areas brought agricultural products to market as the region experienced unparalleled growth. Today,

except for military bases, the entire coastal strip is developed.

The economy of this region has been based on agriculture, commerce, recreation, and government services since the late 1800s. Historic resources are related to the settlement of the region and include homesteads, economic/industrial facilities, residential properties, commercial establishments, and government or military facilities.

CURRENT RESOURCE CONDITIONS

ARCHEOLOGY

Tens of thousands of archeological sites have been recorded within the CVP and SWP Service Areas Outside the Central Valley. Most of the inventory work has been spurred by the overwhelming urban development that characterizes this area. Although many of these resources no longer exist, portions of some archeological sites remain beneath parking lots and streets.

NATIVE PEOPLES

Approximately 25 Indian reservations are located in the region. Traditional cultural properties are known for some of the Indian tribes. Mount San Jacinto and Tahquitz are the homes of mythical beings according to Cahuilla legends. Tecate Peak and other mountains are held sacred by the Kumeyaay Indians. A variety of other places are revered.

HISTORIC RESOURCES

Many sites in the region have received recognition from federal and state programs. Actual numbers have not been determined.

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