

Construction and operation of capital improvements from the proposed 2009 Comprehensive Transportation Plan (CTP) could affect cultural resources, including buildings, districts, or bridges. Key issues include whether construction of capital roadway or transit projects would impact historical, archaeological, paleontological resources, or Native American human remains.

ENVIRONMENTAL SETTING

CONCEPTS AND TERMINOLOGY FOR EVALUATION OF CULTURAL RESOURCES

The following definitions are common terms used to discuss the regulatory requirements and treatment of cultural resources:

Cultural resource is used as an all encompassing term that includes: prehistoric and historical archaeological sites; architectural properties such as buildings, bridges, and infrastructure; and resources of importance to Native Americans.

Historic property is defined by the National Historic Preservation Act (NHPA) as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on, the National Register of Historic Places (NRHP).

Historical resource is a California Environmental Quality Act (CEQA) term that includes buildings, sites, structures, objects, or districts, each of which may have historical, prehistoric, architectural, archaeological, cultural, or scientific importance, and is eligible for listing or is listed in the California Register of Historical Resources (CRHR).

Paleontological resource includes fossilized remains of vertebrate and invertebrate organisms, fossil tracks and trackways, and plant fossils. A unique paleontological site could include a known area of fossil bearing rock strata.

PREHISTORIC SETTING

Sonoma County has a long and complex history of occupation and use by Native American peoples. The Russian River, Santa Rosa Plain, the Pacific coast, rolling hills and other uplands, and the surrounding valleys provided a rich and varied habitat for Native Americans, and initial use of the area dates over a time period in excess of 6,000 years.

Several types of archaeological research have been conducted in this area. These include two large-scale development projects that have intensively investigated the northwestern and northeastern portion of the county at the Warm Springs Dam area and the Geysers Geothermal Region^{1 2 3 4 5}; a number of archaeological sites impacted for linear improvement projects often

¹ Baumhoff, Martin A., and Robert I. Orlins. 1979. *An Archaeological Assay on Dry Creek, Sonoma County, California*. Contributions of the University of California Archaeological Research Facility 40. Berkeley.

² Basgall, Mark. 1982. "Archaeology and Linguistics: Pomoan Prehistory as Viewed from Northern Sonoma County, California." *Journal of California and Great Basin Anthropology* 4: 3-22. 1993. Chronological Sequences in the Southern Coast Ranges, California. In *There Grows a Tree*. Center for Archaeological Research at Davis Publication Number 11. Davis, California.

³ Basgall, Mark and Paul Bouey. 1984. "The Prehistory of Northern Sonoma County: Results of the Warm Springs Archaeological Project, 1975-1984." Manuscript on file at the US Army Corps of Engineers, San Francisco.

1988. "The Prehistory of North-Central Sonoma County, California: Archaeology of the Warm Springs Dam-Lake Sonoma Locality." Manuscript on file at the Northwest Information Center, Sonoma State University, Rohnert Park, California.

4.5 CULTURAL RESOURCES

for various proposed transportation improvements or wastewater upgrades^{6 7 8 9}; studies by California Department of Parks and Recreation at Fort Ross¹⁰ and Duncan's Landing¹¹ among others¹²; and numerous small-scale studies generated for CEQA projects. These, in addition to hundreds of academic studies resulting from public projects, provided the archaeological information used to form the foundation for the cultural chronology of the county.

The Paleoindian period (8,000 to 12,000 years before the present [B.P.]) is as yet poorly defined in Sonoma County. Based on better sampling from elsewhere in northern California, the people living at this time are thought to have been organized into small, highly mobile groups who traveled to lakes and wetland areas to obtain resources associated with these environmental communities.

Artifacts from this time are fluted points, single-shoulder points, and crescents (erratics) frequently produced from local cherts or obsidian. Limited evidence of this period has been identified at CA-SON-977 within the lands of the Laguna de Santa Rosa and in the lowest level of cultural deposit at Duncan's Landing. Individual artifacts attributed to this time period have also been recovered from the western portion of the Santa Rosa Plain attesting to the use of this locality for resource gathering.

The Lower Archaic period (8000 to 5000 B.P.) is manifested in the Borax Lake pattern in the Santa Rosa Plain by the Spring Lake culture. Subsistence continued to be based on mobility with hunting and the harvesting of hard seeds. Artifact types include wide-stem, lanceolate, and small-stem projectile points, unifacial basalt cobble tools, milling slabs, and handstones. An assemblage characterized by these artifacts was identified at CA-SON-20B at the Spring Lake area of Santa Rosa with the massiveness of the basalt artifacts unique to this area.¹³ Elsewhere, a few artifacts representative of this culture were identified at CA-SON-120 near Glen Ellen. In

⁴ Stewart, Suzanne. 1993. "Diversity in the Warm Springs Locality, Sonoma County, California." Masters thesis in Cultural Resources Management, Sonoma State University, Rohnert Park, California.

⁵ Fredrickson, David A. 1989. "Spatial and Temporal Patterning of Obsidian Materials in the Geysers Region." In *Current Directions in California Obsidian Studies*. Contributions of the University of California Archaeological Research Facility, No. 48. Berkeley.

⁶ Wickstrom, B.P. 1986. "An Archaeological Investigation of Prehistoric Sites CA-SON-1250 and CA-SON-1251, Santa Rosa, Sonoma County, California." Manuscript on file at the Northwest Information Center, Sonoma State University, Rohnert Park, California.

⁷ Villemaire, B. and A. Huberland. 1986. "An Archaeological Test Excavation of Prehistoric Sites CA-SON-43 and CA-SON-44, Kenwood, Sonoma County, California." Manuscript on file at the Northwest Information Center, Sonoma State University, Rohnert Park, California.

⁸ Jones, Terry, and John Hayes. 1989. *Archaeological Data Recovery at CA-SON-120*. California Department of Transportation, District 4, San Francisco.

⁹ Gerike, Christian, Seana L. Gause, Suzanne Stewart, and Katherine Johnson. 1996. "Cultural Resources Study for Santa Rosa Subregion Long-Term Wastewater Project. Volume 1." Manuscript on file at the Northwest Information Center, Sonoma State University, Rohnert Park, California.

¹⁰ Lightfoot, Kent G., Thomas A. Wake, and Ann Schiff. 1991. *Archaeology and Ethnohistory of Fort Ross, California: Volume 1. Introduction*. Contributions of the University of California Archaeological Research Facility 49. Berkeley.

¹¹ Schwaderer, Rae. 1992. "Archaeological Test Excavation at the Duncans Point Cave, CA-SON-348/H." In *Essays on the Prehistory of Maritime, California*. Archaeological Research at Davis, No. 10. University of California, Davis.

¹² Dowdall, Katherine M. 1995. *Temporal Contrasts in Archaeological Site Usage of the Northern Sonoma Coast*. Master's thesis in Cultural Resources Management, Sonoma State University, Rohnert Park, California. Reprinted by Coyote Press, Salinas, California.

¹³ Wickstrom, Brian P. 1982. "Archaeological Investigations at CA-SON-20, Santa Rosa, Sonoma County, California." Manuscript on file at the Northwest Information Center, Sonoma State University, Rohnert Park, California.

addition, obsidian hydration readings obtained from flaked obsidian recovered from CA-SON-2098 in Santa Rosa correspond to the end of this period.¹⁴

Sonoma County archaeological assemblages during the Middle Archaic period (5000 to 2500 B.P.) are assigned to the Black Hills culture. Black Hills is considered a local variant of the Mendocino pattern and appears to consist of a somewhat larger population marked by a slightly less mobile settlement pattern. Artifacts were produced from local materials and include obsidian and chert concave-base and narrow leaf-shaped points, chert side-notched and stemmed points, small obsidian diamond-shaped points; charmstones are also present. In general, formal bifaces and points were manufactured predominantly from Napa Valley and Annadel obsidians, with other flaked stone artifacts produced mainly from Annadel. The use of millingslabs and handstones continue to be used with the introduction of some mortars and pestles. The residents of CA-SON-2098 used both Annadel and Napa Valley obsidians; in contrast, initial use at Warms Springs Dam/Lake Sonoma is dominated by chert, suggesting limited to no interaction with the rest of Sonoma County and its informal trade network.

The Upper Archaic period (2500 to 1000 B.P.) corresponds to a cooler and wetter climate predominating in Sonoma County and is marked by the intrusion of a San Francisco Bay culture, known as the Berkeley pattern. This culture might indicate the arrival of the Miwokan language group. Changes in settlement patterns are manifested by sites reflecting a larger population that was more sedentary; sedentism allowed for the creation of middens at village sites. There are also indications of social differentiation and more formalized exchange systems. A shift in subsistence practices included a reliance on processing acorns in bowl mortars and pestles, though hard seed processing with milling tools was also still practiced. Other artifacts representing the Berkeley pattern are shouldered and non-shouldered lanceolate projectile points and Olivella saddle beads. The Berkeley pattern is manifested over most of Sonoma County, all the way to Duncan's Landing. Evidence of contemporaneous co-occupation by both the more sedentary Berkeley pattern people and those more mobile groups from the Black Hills culture/Mendocino pattern have been identified in Bennett Valley, along the Laguna de Santa Rosa, at Warm Springs, and in Alexander Valley.¹⁵

The beginning of the Lower Emergent period (1000 to 500 B.P.) is thought to reflect the southern and western expansion of the Pomoan speakers onto the Santa Rosa Plain and all the way to the coast. The Black Hills culture fades from the archaeological record, and it is proposed these people either intermarried or were pushed north into Mendocino County and the uplands of northern Sonoma County. Those people from the Miwokan expansion were pushed back to the south. The Rincon aspect of the Augustine pattern is marked by the adoption of the bow and arrow, an important innovation in hunting. Artifacts consist of small, serrated corner-notched points and rectangular Olivella beads. The use of acorns becomes more developed as evidenced by more plentiful mortars and pestles. In some areas, villages might have been semi-permanent. More sites in Sonoma County have been dated to this period than any other and are found throughout the whole area. At CA-SON-120, the component from this period contains a plethora of Napa Valley obsidian debitage and tools with the inference made that this was

¹⁴ Origer, Thomas M. 1993. "The Archaeology of CA-SON-2098: A Buried Archaeological Site in Santa Rosa, Sonoma County, California." Manuscript on file at the Northwest Information Center, Sonoma State University, Rohnert Park, California.

¹⁵ Psota, Sunshine. 1994. *Native American Use of Non-quarry Obsidian in Northern Sonoma County: A Preliminary Assessment*. Master's thesis in Cultural Resources Management, Sonoma State University, Rohnert Park, California. Reprinted by Coyote Press, Salinas, California.

4.5 CULTURAL RESOURCES

likely a Wappo village, while obsidian use at neighboring sites shows a preference for Annadel that is suggestive of Pomoan use.

The Upper Emergent period (500 B.P. to Historic period) reflects the Native American lifeways that the Spanish and Russians encountered on their arrival to the Bay Area. Represented as the Gables aspect, this adaptation featured the development of the regional clamshell disc-bead economy and greater social interaction between neighboring groups. Sonoma County played a prominent role in the manufacture of this form of currency that was traded and used throughout California and into the Great Basin. These beads were a visible sign of wealth, worn throughout one's life, and buried with them upon their death; this is another indication of the rise of social differentiation that characterized Native California societies. The artifact assemblage contained obsidian nonserrated corner-notched points, obsidian notchless point preforms, chert drills, clam-disc and lipped Olivella beads, and hopper mortars and pestles. A general settlement shift during this time shows a preference for elevated creekside areas and a consolidation of villages frequently at locations away from the Laguna. Shell bead manufacture has been identified at CA-SON-159 and -518, interior sites situated near the southern extent of the Laguna.

ETHNOGRAPHY

Prior to the arrival of Euroamericans in the region, California was inhabited by groups of Native Americans speaking more than 100 different languages and occupying a variety of ecological settings. Sonoma County included speakers of the Southern (central) and Kashaya (coastal) Pomo, Coast Miwok (southern), Wappo (eastern), and possibly Patwin (southeastern) languages.¹⁶ Despite the language differences and geographic distance, many of these peoples lived quite similarly. In some areas, large permanent villages were established and in other areas a more mobile way of life was pursued. Littoral (shoreline), riparian, and grassland environments with riparian corridors and resource-rich were the most productive and were most intensively utilized. In contrast, uplands and redwood areas were less productive and less intensively used. As throughout central and northern California, the acorn was the dietary staple of those Native Californians in Sonoma County, but a plethora of floral and faunal resources were used. Like most Native Californians, they managed their environment to improve and maintain it. For example, the burning of grass and brush lands annually to improve foraging for deer and rabbits also kept the land open, providing safety from predators and their neighbors, and improving the health and productivity of many resources they used.¹⁷

These societies consisted of many tribes that were small independent groups of usually related families occupying a specific territory and speaking the same language or dialect. Inter-tribe relationships were socially and economically advantageous, offering marriage partners, information, and materials and services not available locally. Traditional established trade patterns were operating when foreigners were shipwrecked on the western shores of Sonoma County and the Spanish and Russians invaded. These trade items supplied the Sonoma County residents with products (such as obsidian and ocean shells) from nearby county sources and those further afield, and in return allowed export of products unique or bountiful from this region.

¹⁶ Kroeber, A. L. 1925. *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Washington, D.C.

¹⁷ Anderson, M. Kat. 2005. *Tending the Wild: Native American Knowledge and the Management of California's Natural Resources*. University of California Press, Berkeley.

Pomo

It is understood by ethnographers that the people collectively referred to as Pomo belong to several distinct groups who spoke different dialects of this Hokan linguistic stock. There are seven Pomo languages: Northern, Northeastern, Eastern, Southeastern, Central, Southern, and Kashaya Pomo. Ethnographic sources on Pomo include Barrett (1908), Kroeber (1925), Loeb (1926), Gifford and Kroeber (1939), Kniffen (1939), Stewart (1943), McLendon and Oswalt (1978), Bean and Theodoratus (1978), and McLendon and Lowy (1978).^{18 19 20 21 22 23 24}

Southern

The territory controlled by speakers of the Southern Pomo dialect ranged from about 5 miles south of present-day Santa Rosa northward to near the county line with Mendocino. The northern boundaries ranged from the western portion of Cobb Mountain to just south of the present-day town of Gualala. Besides a narrow access to the Pacific, most of their eastern boundary was bounded by Kashaya lands. Ethnographic villages are mapped adjacent to rivers and creeks.

Kashaya

The lands occupied by the Kashaya Pomo ranged from the Pacific Ocean in the west, to Austin Creek in the east, and from approximately Duncan's Landing in the south to the Black Point area above Stewarts Point. Of all the different Pomo groupings, the only one still retaining their own name for themselves is the Kashaya. The Kashaya's introduction to long-term Euroamerican settlement was with Russians who established Fort Ross within their territory and recruited them as laborers. Ethnographic villages were situated on ridgelines and along the coastal terrace of the Pacific Ocean.

Coast Miwok

Coast Miwok is a part of the Penutian language family. Two dialect subdivisions, the Western (or Bodega) and the Southern (or Marin) comprise the larger group. The Southern Miwok is further divided into coastal and valley subgroups.^{25 26} Their territory consisted of all of Marin County extending to the present-day town of Cotati in the north and Duncan's Landing in the west. The eastern boundary is disputed, but perhaps overlapped with Wappo speakers and included the

¹⁸ Barrett, Samuel A. 1908. "The Ethnography of Pomo and Neighboring Indians." *University of California Publications in American Archaeology and Ethnology* 6(1):1-332.

¹⁹ Kroeber, A. L. 1925. *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Washington, D.C.

²⁰ Loeb, Edwin M. 1926. "Pomo Folkways." *University of California Publications in American Archaeology and Ethnology* 19(2):149-405.

²¹ Gifford, Edward W. and A.L. Kroeber. 1939. "Culture Element Distributions, II." *University of California Publications in American Archaeology and Ethnology* 37(2):117-254.

²² Kniffen, Fred B. 1939. "Pomo Geography." *University of California Publications in American Archaeology and Ethnology* 36(6):353-400.

²³ Stewart, Omer C. 1943. "Notes on Pomo Ethnogeography." *University of California Publications in American Archaeology and Ethnology* 40(2):29-62.

²⁴ McLendon, Sally and R.L. Oswalt. 1978. "Pomo: Introduction." In *California*, edited by R.F. Heizer. Handbook of North American Indians Vol. 8, W.C. Strutveant, general editor. Smithsonian Institute, Washington, D.C.

²⁵ Barrett, Samuel A. 1908. "The Ethnography of Pomo and Neighboring Indians." *University of California Publications in American Archaeology and Ethnology* 6(1):1-332.

²⁶ Kelly, Isabel. 1978. "Coast Miwok." In *California*, edited by R.F. Heizer. Handbook of North American Indians Vol. 8, W.C. Strutveant, general editor. Smithsonian Institute, Washington, D.C.

4.5 CULTURAL RESOURCES

present-day towns of Glenn Ellen and Sonoma and extended to San Pablo Bay. Many of the ethnographic villages of the Coast Miwok within Sonoma County are along the coast and adjacent to major waterways, but other locations were also used. For more detailed information see Sylvia B. Thalman and Mary Collier.²⁷

Wappo

Wappo is a part of the Yukian language stock.²⁸ Speakers of this language are further divided geographically into Western, Northern, Central, and Southern.²⁹ Only the western territory extended into the northeastern portion of Sonoma County, encompassing most of Cobb Mountain west to the present town of Geyserville and Alexander Valley, east to Mount St. Helena. Ethnographic villages are depicted near major water sources, and examples of the Southern Wappo's social interactions with the Southern Pomo are evident in the Wappo names for ethnographic villages near present-day Santa Rosa and Sebastopol.

Patwin

Speakers of the Patwin language, a member of the Penutian language family, lived predominantly in the western part of the central valley (River Patwin) or west into the montane region (Hill Patwin) from Lodoga to Knoxville, to Benicia.³⁰ Ethnographers do not agree on the southwestern boundary of the Patwin speakers, with some placing a tentative boundary near the present-day towns of Glenn Ellen and Sonoma and extending to San Pablo Bay, while others place the boundary near the Napa River. This may have been a shared area with the Coast Miwoks. No ethnographic names were recorded within Sonoma County.

HISTORIC SETTING

Euroamerican Exploration and Early Hispanic and Russian Settlements

The first contact between Native American populations in Sonoma County and Euroamericans might have occurred in the late 1500s when Sir Francis Drake was exploring the coastline and stopped in Pomo territory to acquire water and other supplies.³¹ Euroamerican contact with Native Americans in the general area of San Francisco, however, was very sporadic until 1776. In that year, the Spanish established the San Francisco presidio and mission, and undoubtedly interacted with groups of Miwok. By 1817, the Spanish established a mission at San Rafael and began recruiting Native Americans as far north as Santa Rosa.³² Subsequently, in 1832 Mission

²⁷ Thalman, Sylvia B. and Mary Collier. 1991. "Interviews with Tom Smith and Maria Copa: Isabel Kelly's Ethnographic Notes on the Coast Miwok Indians of Marin and Southern Sonoma Counties." MAPOM Occasional Papers No. 6, Novato.

²⁸ Driver, Harold A. 1936. "Wappo Ethnography." *University of California Publications in American Archaeology and Ethnology* 36(3): 179-220. Berkeley.

²⁹ Sawyer, Jesse O. 1978. "Wappo." In *California*, edited by R.F. Heizer. Handbook of North American Indians Vol. 8, W.C. Sturtevant, general editor. Smithsonian Institute, Washington, D.C.

³⁰ Johnson, Patti J. 1978. "Patwin." In *California*, edited by R.F. Heizer. Handbook of North American Indians Vol. 8, W.C. Sturtevant, general editor. Smithsonian Institute, Washington, D.C.

³¹ Bean, Lowell J., and Dorothea Theodoratus. 1978. "Western Pomo and Northeastern Pomo." In *California*, edited by R. F. Heizer, pp. 289-305. Handbook of North American Indians, Vol. 8, William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

³² Beck, Warren and Ynez D. Haase. 1974. *Historical Atlas of California*. University of Oklahoma Press, Norman, Oklahoma.

Milliken, Randall. 1995. "A Time of Little Choice: The Disintegrations of the Tribal Culture in the San Francisco Bay Area, 1769-1810." Ballena Press Anthropological Papers No. 43. Ballena Press, Novato, California.

San Francisco de Solano — the last mission created in California — was established in Sonoma, extending Spanish influence further to the north.³³

The Spanish attempted to convert the Native American population to Catholicism and incorporate them into the “mission system” as their way of assimilating them into their culture. Mission records suggest that approximately 600 Pomo were baptized at Mission San Francisco de Solano and San Rafael beginning in 1817. These sources also reveal that Wappo unsuccessfully battled the Spanish as they were taken from villages in Sonoma and Napa counties and brought to the mission at Sonoma between 1823 and 1834 to be used for labor. The process of missionization disrupted traditional Native American cultural practices across Sonoma County. With the Spanish intent on colonization, coupled with exposure to European diseases for which they had little or no resistance, these events severely impact traditional lifeways of Native Americans in Sonoma County by the close of the 1830s, especially after a series of smallpox and malaria epidemics severely affected what was left of the community.

During the early 1800s, Russians also began to explore and establish settlements in Pomo territory in an effort to provide food for their Alaskan fur colonies while hunting the waters of Northern California. Russian traders were occupying lands considered just beyond the Spanish sphere of influence. In 1809, a Russian trading expedition entered Bodega Bay and established two farms, one at the bay and the other inland from Salmon Creek.³⁴ Two years later, the Russian-American Fur Company began construction of Fort Ross and this continued for decades, eventually including 50 buildings. In the 1820s, the Mexican government continued to consider the area beyond their missions and presidios as the periphery of Mexican territory and left it relatively unsettled. In 1826, Jedediah Strong Smith, an American fur trapper, and a small number of associates made the first overland expedition into California; they returned again in 1827 to explore the San Joaquin and Sacramento valleys. The Mexican government insisted he and his men leave, but the path into the Sacramento Valley and California in general was opened.³⁵

The Mexican period (ca. 1821 to 1848) in California is an outgrowth of the Mexican Revolution, and its accompanying social and political views affected the mission system. In 1833, the missions were secularized and their lands divided into land grants called *ranchos*. After years of rising through the ranks in San Francisco, Mariano Guadalupe Vallejo was sent to the mission in Sonoma to secularize it in 1833 and establish a nearby pueblo. In return for his service, Vallejo received the approximately 66,000-acre Rancho Petaluma land grant, one of the largest in California. During Mexican rule, 26 land grants were granted for lands within the Sonoma County area. These *ranchos* facilitated the growth of a semi-aristocratic group that controlled the larger *ranchos*. Owners of *ranchos* used local populations of Native Americans essentially as forced labor to accomplish work on their large tracts of land. Consequently, Pomo, Coast Miwok, Wappo, Patwin, and other Native American groups across California were forced into a marginalized existence as *peons* or *vaqueros* on large *ranchos*.³⁶

³³ McCarthy, H., W. R. Hildebrandt, and L. K. Swenson. 1985. *Ethnography and Prehistory of the North Coast Range, California*. Center for Archaeological Research at Davis Publication No. 8. University of California, Davis.

³⁴ Hoover, Mildred Brooke, Hero Eugene Rensch, Douglas E. Kyle, Ethel G Rensch. 1990. *Historic Spots in California*. Fourth edition. Stanford University Press, Palo Alto.

³⁵ Lightfoot, Kent, Thomas A. Wake, and Ann M. Schiff. 1991. *The Archaeology and Ethnohistory of Fort Ross, California, Vol. 1: Introduction*. Contributions to the University of California Archaeological Research Facility No. 49. Berkeley.

³⁶ Beck, Warren and Ynez D. Haase. 1974. *Historical Atlas of California*. University of Oklahoma Press, Norman, Oklahoma.

4.5 CULTURAL RESOURCES

The Mexican settlement in the area during the 1830s through 1840s limited Russian encroachment into Mexican territory. Other foreigners from the United States and other countries began to encroach into Mexican territory and settle on the Santa Rosa Plain and in Alexander Valley during the 1840s.

Sonoma County as Part of the United States

The end of the Mexican-American War and the signing of the Treaty of Guadalupe Hidalgo in 1848 marked the beginning of the American period (ca. 1848 to Present) in California history. The onset of this period, however, did nothing to change the economic condition of the Native American populations working on the *ranchos*. Away from the towns, the *rancho* system generally remained intact until 1862–1864, when a drought forced many landowners to sell off or subdivide their holdings. At this time, landowners started to fence ranges and the economy began a shift from cattle ranching to dairy farming and agriculture based on fruit and grain crops, and eventually vineyards. The plight of Native American populations remained, at best, relatively unchanged (e.g., the U.S. Senate rejected treaties between the government and Native Americans in 1851 and 1852, and military reserves were established to maintain various groups).³⁷

The announcement of the discovery of gold in 1848 at John Sutter's sawmill in Coloma dramatically affected California. This catalyst caused a dramatic alteration of both Native American and Euroamerican cultural patterns in California as well as a huge influx of people from around the world seeking their fortune in the gold fields. The initial news also emptied much of Sonoma County, but after unsuccessful ventures and the playing out of easily obtained gold in alluvial deposits by the early 1850s, the county's population continued to grow. Agricultural pursuits were the main economical focus, with wheat and potatoes very popular for their low initial investment and their high value in San Francisco and the Sierran gold fields. This brought about a shift from an agricultural economy based predominantly on cattle with many land grants squatted on or divided and sold.

Building Towns and Communities

Sonoma is one of California's original counties and after the gold rush as the population increased, towns were created. The pueblo of Sonoma, a remnant of the Hispanic period, was the first successful town in Sonoma County and so was named the county seat when the counties were drawn. The town of Petaluma began as a market-hunting camp with several amenities established in the early 1850s.³⁸ Situated at the navigable terminus of the Petaluma River, the town became a thriving shipping and manufacturing center for products from Sonoma County to be shipped to San Francisco and beyond. Petaluma was the largest town in the county in the 1850s and 1860s, with Bloomfield second, prospering for a short time from the surrounding potato farmers, but declining after the railroad was placed to favor central Sonoma County towns.

By 1853, Santa Rosa consisted of only a few buildings and services adjacent to an adobe and the nearby slaughterhouses.³⁹ The following year, through a series of political maneuvers by a

³⁷ Heizer, Robert F. 1974. *The Destruction of the California Indians*. Peregrine Publishers, Salt Lake City, Utah.

³⁸ Heig, Adair. 1982. *History of Petaluma: A California River Town*. Scottwall Associates, Petaluma.

³⁹ LeBaron, Gaye Dee Blackman, Joann Mitchell, and Harvey Hansen. 1985. *Santa Rosa: A Nineteenth Century Town*. Historia, Ltd., Santa Rosa, California.

group of developers and local boosters, it became the county seat. Not until the 1870s did Santa Rosa surpass Petaluma in size, greatly helped by the favorable placement of the railroad to the town. As Santa Rosa continued to grow, spread, and diversify, others were enticed to come. One of these new citizens was Luther Burbank, who moved to the edge of town and then spent 50 years experimenting with horticulture between his place in south Santa Rosa and a farm just west of Sebastopol. During his career, Burbank created more than 800 new varieties of plants including over 200 varieties of fruits, many vegetables, nuts and grains, and hundreds of ornamental flowers. These creations were sold everywhere, with many continuing to be grown in Sonoma County today.

A Diverse Economy

The latter half of the nineteenth century witnessed an ongoing and growing immigration of Anglo-Americans into the area, an influx also accompanied by regional cultural and economic changes. Anglo-American culture expanded at the expense of Hispanic culture, with dispersed smaller farmsteads slowly replacing the immense Mexican ranchos. The advent of the railroad in the area in the late 1800s, and the mechanization of farming with steam-driven machinery, once again altered the economy and landscape of the region. Large tracts of land were opened for farming while their yields could be transported to a larger consumer base. These agricultural developments demanded a large labor force and sparked a new wave of immigration into the region. These changes were highlighted by the development of towns associated with expanding business opportunities.

The first vineyard in Sonoma County consisted of 1,000 grapevines at the mission in Sonoma.⁴⁰ In 1875, Sonoma County had 75 wineries encompassing over 7,000 acres planted with wine grapes and produced 3.4 million gallons of wine annually, about 40 percent of the state's yield. At the end of the nineteenth and beginning of the twentieth century, viticulture continued to expand in the county with 26,000 acres under production. Although the enactment of Prohibition resulted in the collapse of the California wine industry, many creative enterprises helped save some of the county's wineries, including a black market for grapes and sacramental wines. Bootlegging brought money and excitement to the coastal communities where shipments of illegal alcohol were delivered from ships, especially at Black Point and Del Mar Landing at what is now Sea Ranch. Since the 1950s, the recovery of the regional wine industry has been dramatic, with wine production and tourism steadily increasing in Sonoma County and surrounding regions.

The Effects of World War II and the Post-War Boom

Two military bases were established in Sonoma County to assist in the war effort. In 1943, the Santa Rosa Naval Auxiliary Air Station was commissioned on land southwest of Santa Rosa. At its peak, the station consisted of approximately 1,800 soldiers.⁴¹ At Two Rock, northwest of Petaluma, the U.S. Army built a top-secret communications station, which continues to operate today as Two Rock Coast Guard Station. Both of these facilities brought added money into the neighboring communities as a variety of services were created to address their needs. In the decade after World War II, Sonoma County's population greatly increased with monies from GI bills inspiring many new homes and veterans returning to this idyllic place. The new population

⁴⁰ Unzelman, Gail, and the Wine Library Associates of Sonoma County. 2006. *Sonoma County Wineries*. Arcadia Publishing, Charleston, South Carolina.

⁴¹ LeBaron, Gaye, and Joann Mitchell. 1993. *Santa Rosa: A Twentieth Century Town*. Historia, Ltd., Santa Rosa.

4.5 CULTURAL RESOURCES

also added to the local businesses and industries. The Santa Rosa Air Station was closed after the Korean War.

IDENTIFICATION OF HISTORIC AND CULTURAL RESOURCES

The diversity of Sonoma County's rich history is evident in the numerous prehistoric sites, historic sites, and historic buildings that have been identified and documented. Within the county, 3,679 cultural resources have been identified and recorded at the Northwest Information Center of the California Historical Resources Information System (NWIC) as of September 2008 (records search file No. 08-386. These include:

- Prehistoric archaeological sites such as large midden/village sites (often containing burial sites), small task-specific sites (characterized by flaked stone remains and sometimes groundstone), bedrock mortars, and rock art;
- Historic-era archaeological sites such as sealed filled features (privies, pits, and wells), sheet scatters, cultural landscapes, cemeteries, and remnants of buildings, structures, travel routes, and fences that are 45 years or older;
- Historic-era buildings such as residential, commercial, and industrial buildings and outbuildings;
- Historic-era structures such as bridges, tunnels, kilns, and intact roads, fences, railroad grades, and paths;
- Historic-era objects such as boundary markers, sculpture, and fountains; and
- Districts that would constitute a combination of any of the above cultural resources.

Many of these cultural resources have been identified from the 5,758 investigations conducted within Sonoma County and filed at the NWIC. Some of these cultural resources and others are listed in various state and federal inventories including those resources listed or determined eligible to the National Register of Historic Places and the California Register of Historical Resources; listed on the California Register of Historical Resources, National Historic Landmarks; and State Historical Points of Interest.

- 204 Sonoma County Historical Landmarks;
- 107 properties listed in the California Register of Historical Resources;
- 80 properties listed in the National Register of Historic Places;
- 5 properties that are National Historic Landmarks; and
- 1 State Historical Point of Interest.

PALEONTOLOGICAL RESOURCES

Paleontology is defined as a science dealing with the life of past geological periods as known from fossil remains. Paleontological resources include fossil remains and fossil localities and formations which have produced fossil material. A search of the University of California Museum of Paleontology (UCMP) collections database for the project identified that 299 paleontological sites are located in Sonoma County. Paleontological resources within the county have been primarily recovered from the following geologic formations:

- Franciscan Formation, which covers the northern part of the county with the exception of the Alexander Valley and the northern Santa Rosa plain;
- Wilson Grove, Ohlson Ranch, and Petaluma Formations, which occur in the western part of the county and at the base of the Sonoma Mountains; and
- Sonoma Volcanics, which occur in the Sonoma and Napa mountains.

These areas are very sensitive for paleontological resources. In addition, paleontological resources have been recovered from other areas in Sonoma County including the U.S. 101 highway corridor.

REGULATORY FRAMEWORK

FEDERAL REGULATIONS

Section 106, National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties and afford a reasonable opportunity to comment on such undertakings. The Section 106 process seeks to accommodate historic preservation concerns with the needs of federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties, commencing at the early stages of project planning. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects, and seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. Section 112(a)(1)(A) of the act requires each federal agency responsible for the protection of historic resources, including archeological resources, to ensure that all actions taken by employees or contractors of the agency shall meet professional standards under regulations developed by the Secretary of the Interior.

STATE REGULATIONS

California Environmental Quality Act

CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources. State CEQA Guidelines Section 15064.5 defines a significant effect as one that may cause a substantial adverse change in the significance of an historical resource. A "substantial adverse change" means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings, such that the significance of an historical resource is materially impaired.

California Register of Historical Resources

The California Register of Historical Resources (CRHR) serves as the authoritative guide to resources that are considered significant under CEQA. However, simply because a resource is not currently listed in the CRHR does not mean that it is not a historical resource. A "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript that is historically or archaeologically significant (Public Resources Code Section 5020.1). Section 15064.5 of the State CEQA Guidelines specifies criteria for evaluating the importance of cultural resources. Native American concerns and the concerns of other interested persons and entities, including but not limited to museums, historical commissions,

4.5 CULTURAL RESOURCES

associations and societies, shall be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains (Health and Safety Code Section 7050.5, Public Resources Code Section 5097.94 et seq.).

Once prehistoric or historic sites are identified, field-level evaluation is required to examine the significance of any remains of a site. In the case of unprotected archaeological sites and buildings, archival research is sometimes necessary to determine the role these locations in relation to the history of the area. There are a number of sites in the Bay Area which have not yet received this type of analysis. A detailed evaluation must be conducted before mitigation measures can be determined for resources which will be damaged by development.

California's Health and Safety Code, Section 7050.5

California Health and Safety Code Section 7050.5 requires that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner, and cause of any death. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.

California Public Resource Code, Section 5097.98

Section 5097.98 of the California Public Resources Code stipulates that whenever the Native American Heritage Commission receives notification of a discovery of Native American human remains from a county coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The descendants may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make their recommendation within 24 hours of their notification by the Native American Heritage Commission. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

IMPACT ANALYSIS

Given this environmental document's status as a Program EIR, site-specific analyses of potential impacts of CTP projects on cultural resources where ground-disturbing activities will occur are not performed. This is because the extent of ground disturbance associated with various projects within the 2009 CTP is not known at this time. When individual projects or activities under the 2009 CTP are proposed, implementing agencies would be required to examine the projects or activities to determine whether their effects were adequately analyzed in this EIR. Therefore, specific impacts on cultural resources of individual transportation projects would be reviewed during the approval processes for those projects to ensure that any cultural resource impacts were identified in this Program EIR or in separate project-specific CEQA or CEQA/NEPA documents.

METHODOLOGY

The impact assessment was based on the project description (Section 3.0), information described in the existing setting subsection, and the standards of significance described above. The impact assessment discusses impacts from implementation of the 2009 CTP. Efforts to identify cultural resources which could be affected by the 2009 CTP included a review of the prehistoric and historic setting of the county, archival research at the Northwest Information Center, a review of archaeological sites and historic resources identified by the archival research, and a review of the Sonoma County General Plan pertaining to the project area. The potential impacts of the project on cultural resources were evaluated by considering both the construction activities as well as the operational impacts of the proposed CTP.

SIGNIFICANCE CRITERIA

This section uses the following criteria, which is based on Appendix G of the State CEQA Guidelines, to assess whether the proposed 2009 CTP would have a significant effect on cultural resources. The CTP is considered to have a significant impact on cultural resources if it:

- Causes a substantial adverse change in the significance of a historical resource, defined as physical demolition, destruction, relocation or alteration of the resource or its immediate surroundings such that the significance of an historic would be materially impaired.
- Causes a substantial adverse change in the significance of a unique archaeological resource.
- Directly or indirectly destroys a unique paleontological resource or site or unique geologic feature.
- Disturbs any human remains, including those interred outside of formal cemeteries.

IMPACTS AND MITIGATION MEASURES

Impacts to Historic Resources

Impact 4.5-1 Implementation of the proposed 2009 CTP could result in a substantial adverse change in the significance of historical resources. Construction projects could also unearth human remains that would require cessation of activities until further analysis, as required by state law, is conducted. This is considered a **significant and mitigable** impact.

Proposed highway, roadway, and bridge replacement projects could result in significant impact to historic resources, including buildings, districts, or bridges. It should be noted that many structures and bridges in Sonoma County are over 50 years and have not been evaluated for historical significance. Physical impacts to historic resources could occur during construction of transportation projects through direct disturbance of buried resources or direct impact or alteration of structures.

The proposed 2009 CTP's projects are generally not expected to result in significant impacts to historic sites. Nevertheless, some projects could impact the physical and aesthetic integrity of historic resources or adversely impact historic structures through increased levels of corrosive air contaminants which may damage the exterior of historic buildings.

4.5 CULTURAL RESOURCES

Project sponsors would be required to analyze each specific project's potential impacts on historic resources in separate environmental documents where it is determined that the project would disturb the existing terrain or is likely to result in significant impacts on historic resources. Implementation of the following mitigation measures would ensure that impacts on historic resources from the projects identified in the proposed CTP would be reduced to **less than significant**.

Mitigation Measures

MM 4.5-1a During the environmental review process for proposed CTP projects, project sponsors shall determine if there is a potential for a significant impact to historic resources to occur. If it is determined there is a potential significant impact to these resources, project sponsors shall implement the laws and regulations of the responsible regulatory agency. Examples of such mitigation measures include the following:

- A qualified historian shall review previous site investigations of the project site (if available) to determine the historic significance of the project site. If it is determined there are potential resources on the project site, the qualified architectural historian or historian shall also determine whether structures greater than 50 years in age are within the area of potential to be affected by the project and to determine their eligibility for recognition under state, federal, or local historic preservation criteria.
- If there are projects being developed adjacent to sites with an identified historic resource, a qualified historian shall be utilized to determine the extent of the potential degradation and recommend measures to reduce the impacts to the resource. The project sponsor shall implement the measures to protect the integrity of the resource or site.

MM 4.5-1b The project sponsor's planning department shall be notified immediately if any prehistoric or historic resources are uncovered during construction of project facilities. All construction must stop in the vicinity of the find, and a qualified archaeologist shall be retained to evaluate the finds and recommend appropriate action.

Implementation of mitigation measures MM 4.5-1a and MM 4.5-1b would reduce potential impacts to unknown prehistoric, historic, and Native American resources to a **less than significant** level.

Impacts to Cultural Resources

Impact 4.5-2 Implementation of the proposed 2009 CTP could result in a substantial adverse change in the significance of a cultural resource, defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that its significance would be materially impaired. Construction projects could also unearth human remains that would require cessation of activities until further analysis, as required by state law, is conducted. This is considered a **significant and mitigable** impact.

As discussed above, the proposed 2009 CTP's projects are generally not expected to result in significant impacts to cultural sites or to unearth human remains. First, most roadway projects (e.g., widening of existing roadways, freeway interchange projects) are located within existing rights-of-way that have already been disturbed from previous construction, and therefore impacts are likely to be less than significant. In addition, many of these areas were the subject of previous cultural resource surveys. Second, CTP projects such as traffic signalization, transit operations, equipment replacement, and pavement maintenance would not generally involve disturbing existing soils that would directly affect cultural resources.

Project sponsors would be required to analyze each specific project's potential impacts on prehistoric and cultural resources in separate environmental documents where it is determined that the project would disturb the existing terrain and is likely to result in significant impacts to these resources. The implementation of mitigation measures such as those described below would ensure that impacts on cultural resources from the projects identified in the proposed CTP would be reduced to **less than significant**.

Mitigation Measures

MM 4.5-2a

During the environmental review process for proposed CTP projects, project sponsors shall determine if there is a potential for a significant impact to cultural resources to occur. If it is determined there is a potential significant impact to these resources, project sponsors shall implement the laws and regulations of the responsible regulatory agency. Examples of such mitigation measures include the following:

- A qualified archaeologist shall review previous site investigations of the project site (if available) to determine the historic significance of the project site. A qualified archaeologist shall perform a records review through the Northwest Information Center at Sonoma State University to determine the potential for, or existence of, cultural resources. A qualified archaeologist shall review the records search to determine the significance (as defined by CEQA and National Historic Preservation Act guidelines) of cultural resources identified within the area of potential effect.

MM 4.5-2b

If a potentially significant cultural resource is encountered during subsurface earthwork activities for the project, all construction activities within a 100-foot radius of the find shall cease until a qualified archaeologist determines whether the resource is significant. The project sponsor shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Potentially significant cultural resources consist of, but are not limited to, stone, bone, glass, ceramic, wood or shell artifacts, fossils, or features including hearths, structural remains, or historic dumpsites. If the resource is determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant. The archaeologist shall also perform appropriate technical analyses, prepare a comprehensive report and file it with the Northwest Information Center, and provide for the permanent curation of the recovered materials.

4.5 CULTURAL RESOURCES

MM 4.5-2c The project sponsor shall implement the appropriate mitigation measures presented by a qualified archaeologist for any discovery of significant resources, based on applicable state and federal regulations. All construction must stop in the vicinity of the find, and a qualified archaeologist shall be retained to evaluate the finds and recommend appropriate action.

The project sponsor shall implement the mitigation recommendations presented by a qualified archaeologist for any unanticipated discoveries of significant resources. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The project proponent shall be required to implement any mitigation necessary for the protection of cultural resources.

MM 4.5-2d If human remains are discovered, all work must stop in the immediate vicinity of the find, the project sponsor's planning department shall be notified immediately, and the County Coroner must be notified according to Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed.

Implementation of mitigation measures MM 4.5-2a through MM 4.5-2d would reduce potential impacts to unknown prehistoric and Native American resources to a **less than significant** level.

Impacts to Paleontological Resources

Impact 4.5-3 Construction activities associated with implementation of the 2009 CTP could result in impacts to undiscovered paleontological resources. This is considered a **significant and mitigable** impact.

Construction of some roadway capital improvements (e.g., freeway interchanges) could involve excavation that unearths buried paleontological resources, though these are less likely in areas that have been previously disturbed if deep excavation had already occurred in the vicinity of the proposed CTP project. Nevertheless, fossils, fossil casts, and breas could be encountered with substantial excavation and/or soil removal.

Many of the 299 paleontological sites located in Sonoma County through a search of the University of California Museum of Paleontology collections database were located along the U.S. 101 corridor and other areas throughout the county that could be impacted by CTP projects. Proposed ground-disturbing activities associated with interchange and other mainline freeway improvements in the proposed 2009 CTP could unearth additional unknown paleontological resources that would require mitigation. This is considered a **significant and mitigable** impact.

Mitigation Measures

MM 4.5-3a Where earthwork activity is proposed to depths below 3 feet, the project sponsor shall perform a search of the University of California, Berkeley Museum of Paleontology collections database to proactively identify any evidence of paleontological resources in the proposed project area.

MM 4.5-3b If any paleontological resources (fossils) are discovered during a project's ground-disturbing activity, all work in the immediate vicinity must stop and the project sponsor's planning department shall be immediately notified. A qualified paleontologist shall be retained to evaluate the finds and recommend appropriate mitigation measures for the inadvertently discovered paleontological resources.

Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The project sponsor shall be required to implement any mitigation necessary for the protection of paleontological resources.

Project-specific implementation of mitigation measures MM 4.5-3a and MM 4.5-3b would reduce impacts to paleontological resources to a **less than significant** level.