

12 CULTURAL AND PALEONTOLOGICAL RESOURCES

12.1 INTRODUCTION

This chapter provides information relevant to cultural and paleontological resources impacts under National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) in connection with the Proposed Action and alternatives. This chapter includes an introduction, environmental and regulatory setting, impact analysis methods and assumptions, significance criteria, environmental effects of the action alternatives, and mitigation measures to address effects that are identified as significant.

12.1.1 Data Sources

The following sources of information were reviewed to prepare this chapter.

- ▲ *Yolo County 2030 Countywide General Plan* (Yolo County General Plan) (Yolo County 2009a),
- ▲ *Yolo County 2030 Countywide General Plan EIR* (Yolo County General Plan EIR) (Yolo County 2009b),
- ▲ *City of Davis General Plan* (City of Davis 2007),
- ▲ *City of West Sacramento General Plan 2035 Policy Document* (City of West Sacramento 2016),
- ▲ *City of Winters General Plan* (City of Winters 1992), and
- ▲ *City of Woodland General Plan Update* (City of Woodland 2017).

12.1.2 Definitions

Cultural resources include districts, sites, buildings, structures, or objects generally older than 50 years and considered to be important to a culture, subculture, or community for scientific, traditional, religious, or other reasons.

Archaeological resources are locations where human activity has measurably altered the earth or left deposits of prehistoric or historic-era physical remains (e.g., stone tools, bottles, former roads, house foundations).

Tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either included or determined to be eligible for inclusion in the California Register of Historical Resources or local registers of historical resources.

Historical (or architectural or built environment) resources include standing buildings (e.g., houses, barns, outbuildings, cabins) and intact structures (e.g., dams, bridges).

Paleontological resources include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains that are more than 5,000 years old and occur mainly in Pleistocene or older sedimentary rock units.

12.2 AFFECTED ENVIRONMENT

12.2.1 Environmental Setting

The Yolo County General Plan EIR setting section for Cultural Resources includes a detailed discussion of the paleontological, prehistoric, ethnographic, and historical settings of Yolo County on pages 517 through 529. The following is a brief summary of those discussions. The environmental setting information provided below addresses the County as a whole and does not specifically differentiate between conditions in the individual cities (i.e., Davis, West Sacramento, Winters, and Woodland). For the purposes of describing general cultural and paleontological conditions for the analysis of a county level HCP, information on conditions in the County overall also sufficiently describe conditions within the jurisdictions of each City.

PALEONTOLOGIC SETTING

Significant nonrenewable vertebrate and invertebrate fossils and unique geologic units have been documented throughout California. The fossil yielding potential of a particular area is highly dependent on the geologic age and origin of the underlying rocks (refer to geologic timescale in Table 12-1). Paleontological potential refers to the likelihood a rock unit will yield a unique or significant paleontological resource. All sedimentary rocks, some volcanic rocks, and some low-grade metamorphic rocks have potential to yield significant paleontological resources. Depending on location, the paleontological potential of subsurface materials generally increases with depth beneath the surface, as well as with proximity to known fossiliferous deposits.

Table 12-1 Divisions of Geologic Time

Era	Period	Time in Millions of Years Ago (approximately)	Epoch
Cenozoic	Quaternary	< 0.01	Holocene
		2.6	Pleistocene
	Tertiary	5.3	Pliocene
		23	Miocene
		34	Oligocene
		56	Eocene
		65	Paleocene
Mesozoic	Cretaceous	145	
	Jurassic	200	
	Triassic	251	
Paleozoic	Permian	299	
	Carboniferous	359	
	Devonian	416	
	Silurian	444	
	Ordovician	488	
	Cambrian	542	
Precambrian		2,500	

Source: U.S. Geological Survey 2010

The County's diverse geology spans 145 million years, from the Cretaceous Period through today. The western boundary of the County contains the Blue and Rocky ridges, a northwest-southeast trending range comprised of the Cretaceous Great Valley Sequence. The Great Valley Sequence formed when great quantities of mud, sand, and gravel accumulated as regularly bedded layers on the ocean floor of a deep trench along the margin of the North American continent. Seven geological formations have been identified in the Upper Cretaceous sediments; from oldest to youngest these are the Fiske Creek, Venado, Yolo, Sites, Funks, Guinda, and Forbes Formations. The units are exposed along a north-south axis, dipping below the surface steeply towards the east to form the hills on the west side of Yolo County. The Blue Ridge is bounded by two faults, and is being uplifted on its eastern edge. The geological units within the County are described below, from youngest (surface) to oldest (deepest).

Holocene Alluvium. Late Holocene alluvial deposits overlie older Pleistocene alluvium and/or the upper Tertiary bedrock formations in the southern and eastern portions of Yolo County. This alluvium consists of sand, silt, and gravel deposited in fan, valley fill, terrace, or basin environments. These alluvial deposits contain vertebrate and invertebrate fossils of extant, modern taxa, which are generally not considered paleontologically significant (see the discussion of Significance Criteria below for more information on determining the significance of paleontological resources).

Pleistocene Alluvium. The majority of alluvium in the Capay Valley and the southern portion of the County consist of the Pleistocene-age Modesto-Riverbank and Red Bluff formations. Vertebrate fossils in this alluvium are representative of the land mammal age, including mammoth, ground sloths, saber-toothed cats, dire wolves, rodents, birds, reptiles, and amphibians. Pleistocene alluvium is highly sensitive for paleontological resources.

Tehama Formation. The Tehama Formation is exposed in the western side of the County, on both sides of the Capay Valley and in the Dunnigan Hills, and in isolated outcrops in the southern portion of the County. This series of fluvial deposits is 2,000 feet thick on average and contains fragmentary vertebrate bones. The majority of fossil sites found in the County are in the Tehama Formation.

Capay Formation. The Capay Formation is exposed on the western side of the Capay Valley. The formation varies in thickness between 10 feet and 500 feet and consists of shale and sandstone that dates to the Eocene. The Capay Formation contains numerous invertebrate marine fossils, mostly consisting of shells and is considered to have high paleontological sensitivity.

Forbes Formation. The Forbes Formation is in the hills east of Capay Valley and also comprises the Blue Ridge on the western edge of Yolo County. The Forbes Formation consists of massive beds of fine-to-coarse-grained sandstone, with shell fragments that grade into inter-bedded siltstone and shale. This unit contains Late Cretaceous amoeboid protists and may contain invertebrate marine fossils.

Guinda Formation. The Guinda Formation is in the hills east of Capay Valley and the Blue Ridge on the western edge of Yolo County. This formation contains Late Cretaceous protozoa and amoeboid protists. There are no fossils recorded in the Guinda Formation in the County, but fossils from this formation found in other locations have been of paleontological significance.

Funks Formation. The Funks Formation is in the hills east of Capay Valley and the Blue Ridge on the western edge of Yolo County. The Funks Formation consists of a tan weathering, gray, marine siltstone and mudstone. The Funks Formation shale beds contain Late Cretaceous amoeboid protists.

Sites Formation. The Sites Formation is found in the hills east of Capay Valley and the Blue Ridge on the western edge of Yolo County. The Sites Formation consists of thick bedded, laminated gray sandstone and thick beds of dark gray carbonaceous siltstone. This unit is up to 6,000 feet thick and has been attributed to the Late Cretaceous. No significant fossils have been found in this formation.

Yolo Formation. The Yolo Formation is found in the hills east of Capay Valley and the Blue Ridge on the western edge of Yolo County. The Yolo Formation is moderately thick-bedded, fine-to-coarse grained

sandstone with local mudstone and siltstone. The unit contains Carbonaceous debris and the mudstone beds have Late Cretaceous protozoa and amoeboid protists.

Venado Formation. The Venado Formation is found in the hills east of Capay Valley and the Blue Ridge on the western edge of Yolo County and consists of more than 1,000 feet of massive sandstone, shale, and conglomerate. This unit may contain marine shells; however, the Venado Formation is of low paleontological significance.

PREHISTORIC SETTING

It is probable that humans have inhabited the Sacramento Valley for the last 10,000 years. However, evidence for early occupation is likely deeply buried under alluvial sediments deposited during the late Holocene. Although rare, archaeological remains of the early period have been identified in and around the Central Valley. Early archaeological manifestations are categorized as the Farmington Complex, which is characterized by core tools and large, reworked percussion flakes.

Later periods are better understood because of more abundant representation in the archaeological record. Three general patterns of cultural manifestations have been identified for the period between 4500 Before Present (B.P.) and 3000 B.P.: the Windmill Pattern, the Berkeley Pattern, and the Augustine Pattern.

The Windmill Pattern (4500 B.P.–3000 B.P.) shows evidence of a mixed economy of game procurement and use of wild plant foods. The archaeological record contains numerous projectile points with a wide range of faunal remains. Hunting was not limited to terrestrial animals, as is evidenced by fishing hooks and spears that have been found in association with the remains of sturgeon, salmon, and other fish. Plants also were used, as indicated by ground stone artifacts and clay balls that were used for boiling acorn mush. Settlement strategies during the Windmill period reflect seasonal adaptations: habitation sites in the valley were occupied during the winter months, but populations moved into the foothills during the summer.

The Windmill Pattern ultimately changed to a more specialized adaptation labeled the Berkeley Pattern (3500 B.P.–2500 B.P.). A reduction in the number of manos and metates (stone tools for grinding) and an increase in mortars and pestles indicate a greater dependence on acorns. Although gathered resources gained importance during this period, the continued presence of projectile points and atlatls (spear-throwers) in the archaeological record indicates that hunting was still an important activity.

The Berkeley Pattern was superseded by the Augustine Pattern (1500 B.P.–200 B.P.). The Augustine Pattern is characterized by a change in technology and subsistence strategies. Bow and arrow technology is introduced, as evidenced by a growing increase in the number of small projectile points in Augustine Pattern lithic assemblages. Mortar and pestle implements continue to be used, with acorns becoming the dominant staple. Trade also expands and intensifies at this time, with the acquisition of both exotic finished goods and raw materials. Augustine Pattern mortuary patterns are characterized by: either cremation or burial of the dead within habitation areas of a site; pre-interment grave pit burning; a flexed position of the body with variable orientations; and a differential distribution of grave goods with more items being associated with cremations compared to subsurface burial. Indeed, cremations may have been reserved for relatively wealthy and prestigious individuals.

ETHNOGRAPHIC SETTING

Yolo County includes portions of territories of two Native American groups, the Patwin and the Plains Miwok. Both groups speak languages classified as part of the Penutian linguistic stock. Penutian speakers appear to have entered California relatively late in time and settled nearly half the state by approximately 200 years ago. The Patwin occupied most of the County, while the Plains Miwok were more restricted, inhabiting the lower reaches of the Mokelumne and Cosumnes rivers and the banks of the Sacramento River from Rio Vista to Freeport. The material culture and settlement and subsistence patterns of these groups share many similar traits, likely due to historical relationships and a shared natural environment.

Patwin are comprised of numerous different tribal groups with separate dialects, but anthropologists usually separate Patwin into two primary subdivisions: Hill Patwin and River Patwin. Hill Patwin occupied the lower, eastern slopes of the southern North Coast Range and River Patwin occupied the west side of the lower Sacramento River below the mouth of the Feather River and the lower reaches of Cache Creek and Putah Creek in the Sacramento Valley.

Patwin were organized into tribelets, which were usually composed of a principal village and a few satellite settlements. Each tribelet had a head chief and each village had a chief who administered its economic and ceremonial activities. Patwin manufactured a variety of utilitarian and ceremonial/luxury items, including baskets, stone tools, mortars and pestles, shell beads, and clothing. Shell beads were manufactured for personal adornment and as a medium of exchange. River Patwin also built tule balsa boats to facilitate river travel and acquisition of fish resources.

Patwin traded for various commodities and subsistence resources using clamshell disc beads as a medium of exchange. Initially, River Patwin obtained finished shell beads from Hill Patwin, who obtained them from their Pomo neighbors. In the historic period, however, River Patwin traded for whole shells from the Pacific coast and made beads themselves. Obsidian was obtained from sources in the southern North Coast Ranges, primarily Napa Valley.

The Plains Miwok inhabited the lower reaches of the Mokelumne and Cosumnes rivers, and the banks of the Sacramento River from Rio Vista to Freeport. The primary sociopolitical unit was the tribelet, consisting of the residents of several base settlements and their associated seasonal camps. Each tribelet was independent and held and defended specific territories.

The basic subsistence strategy of the Plains Miwok was seasonally mobile hunting and gathering. However, tobacco was cultivated and dogs were domesticated. Plant foods included acorns, buckeyes, laurel nuts, hazelnuts, seeds, roots, greens, and berries. Acorns, the primary staple, were gathered in the fall and stored through the winter. Seeds were gathered from May through August. Intentional, periodic burning in August ensured an ample supply of seed-bearing annuals and forage for game. The Plains Miwok ate more meat in the winter when stores of plant resources grew smaller. Hunting was accomplished with the aid of the bow and arrow, traps, and snares. Salt was obtained from springs or through trade with people from the Mono Lake area.

Plains Miwok technology included tools of bone, stone, antler, wood, and textile. Typical basketry items were seed beaters; cradles; sifters; rackets used in ball games; and baskets for storing, winnowing, parching, and carrying burdens. Other textiles included mats and cordage. The Plains Miwok constructed several types of structures: conical habitation structures fashioned from tule matting, earth-covered semi-subterranean winter dwellings, acorn granaries, menstrual huts, sweathouses, and conical grinding huts over bedrock mortars.

HISTORICAL SETTING

The Central Valley was explored by Spaniards as early as 1808, including Gabriel Moraga, who guided an expedition up the Sacramento River to present day Sutter County in search of potential inland mission sites. His excursion was followed in 1817 by Father Narciso Duran, Father Ramon Abella, and Luis Arguello, who established a temporary camp near present day Clarksburg. In 1821, Arguello and a party of explorers entered the area once again, this time passing through Solano and Yolo counties before reaching the Sacramento River near Grimes.

During the early 1800s, the region was also explored by hunters and trappers such as Jedediah Strong Smith, Ewing Young, and Hudson's Bay Company trappers. The hunters found the banks of the rivers and streams rich with beaver, otter, and other animals whose pelts were a highly valuable commodity in the worldwide trade of the time. They used to "cache" their pelts near Cache Creek, hence the name.

The influx of European and Spanish explorers and settlers during the 1830s and 1840s rapidly changed Patwin demography. The second quarter of the nineteenth century encompasses the Mexican Period (ca. 1821-1848) in California. This period is an outgrowth of the Mexican Revolution, and its accompanying social and political views, which affected the mission system across California. In 1833, the missions were secularized and their lands divided among many of the elite Mexican families as land grants called ranchos. These ranchos facilitated the growth of a semi-aristocratic group that controlled the larger ranchos. Patwin were essentially used as forced labor on many of these large tracts of land.

Simultaneously with the exploration of the Central Valley and the flanks of the Sierra Nevada, settlers blazed trails across the plains and mountains of the central United States, facilitating the westward migration of Euroamericans. The discovery of gold at Sutter's Mill in Coloma in 1848, however, was the catalyst that caused a dramatic alteration of both Native American and Euroamerican cultural patterns in California. Once news of the discovery of gold spread, a flood of Euroamericans entered the region, and gravitated to the area of the "Mother Lode." The population of California quickly swelled from an estimated 4,000 Euroamericans in 1848 to 500,000 in 1850. The discovery of gold and the large influx of Euroamerican immigrants had a positive effect on the growth and economic development of the area, but a negative effect on Native American cultures. The discovery of gold in California marked the beginning of a relatively rapid decline of both Native American populations and culture.

The Gold Rush transformed Yolo County from an isolated farming community to a booming agricultural region, as disenchanting miners realized they could make a greater fortune through farming and ranching rather than gold prospecting. In 1850, 1,086 people lived in the County; by 1870 that number swelled to 9,899. The majority of growth occurred in the central and western parts of the County near roads and fords crossing Putah and Cache creeks.

Fremont, the County's first town, was founded in 1849 along the confluence of the Sacramento and Feather rivers (south of present day Knights Landing). It became the first County seat in 1850. After Fremont suffered flood damage in 1851, the County government was moved to Washington (now West Sacramento). Between 1856 and 1861, the County seat moved from Washington to Cacheville (present day Yolo) and back to Washington. Flooding finally motivated voters to choose centrally located Woodland as the permanent County seat in 1862.

Transportation

As the County developed, the area's transportation improved. Although early rancho boundaries commonly served as transportation routes, growth and land subdivision led to the creation of travel corridors. The demand for more direct transportation routes resulted in the construction of several railroad lines throughout the County, including the Central Pacific Railroad (1876) and the California Pacific (1868). By 1871, rail lines extended from Vallejo to Dixon, Davisville (now Davis), Washington (West Sacramento), Woodland, and Vacaville.

Farmers in the southwestern portion of the County were faced with poor transportation options, as no rail lines were close enough to serve their needs. Growers were forced to haul their goods to market by horse and wagon in Sacramento and beyond. The owners of the Vaca Valley Railroad Company recognized this dilemma and in 1857, the southern leg of the Vaca Valley Railroad was laid which resulted in the permanent establishment of the town of Winters. In 1877, the Vaca Valley and Clear Lake Railroad Company was incorporated and extended the line north from Winters to Cache Creek. The Southern Pacific Railroad took over ownership of the Vaca Valley and Clear Lake Railroad Company the following year, and the railroad was extended into the Capay Valley. The new line assisted farmers who were starting to cultivate fruit and nut orchards in the northwest region of the County. As a result of the development, the Capay Valley Land Company laid out new towns including Brooks, Esparto, Capay (formerly Langville), Cadenasso, Tancred, Guinda, and Rumsey.

Agriculture and Industry

Barley and wheat became the dominant crops in the County starting in the 1860s. Between 1870 and 1900, 25,000 to 35,000 acres of barley were planted each year in the County. Grown primarily for beer production, the barley crop was sold both in the U.S. and abroad. In 1860, 13,236 acres of wheat were planted, and by 1893, the acreage had increased to 231,306. In 1893, however, a worldwide depression resulting from an overproduction of wheat effectively ended the boom.

Other successful crops included alfalfa, hops, green peas, onions, beans, tomatoes, corn, sugar beets, flax, and grapes. Fruit and nut varieties were also planted, such as almond, walnut, cherry, pear, plum, apple, olive, orange, lemon, apricot, peach, nectarine, and berries of all kinds. By the mid 1880s, California's fruit industry was thriving and was second only to gold mining in economic importance.

In 1906, the University of California purchased 780-acres near Davis to establish a farm, which was to function as part of the university's College of Agriculture. The Davis farm eventually evolved into a separate campus of the University of California system, the University of California, Davis (UC Davis), and is currently the largest employer in the County.

During the early 1900s, hundreds of miles of levees were constructed to control flooding in the Sacramento Valley. In addition, the Fremont and Sacramento weirs, the Knights Landing Ridge Cut, and the Yolo Bypass were built as part of massive flood control efforts. These flood control facilities supported reclamation of thousands of acres of land near the Sacramento River. Companies such as River Garden Farms of Knights Landing and Holland Land Company of Clarksburg developed large farms on the land and revitalized many communities.

Although much of Yolo County remained rural with agriculture as the foundation of the economy, areas such as Davis, Woodland, and West Sacramento became increasingly urbanized during the 20th century.

KNOWN CULTURAL AND PALEONTOLOGICAL RESOURCES

Data from Yolo County 2030 Countywide General Plan

The Yolo County General Plan EIR includes a discussion of the recorded cultural resources located throughout the entire County, including the incorporated cities, on pages 529 through 533. That discussion is summarized here and incorporated by reference.

More than 1,200 cultural resources have been recorded countywide. Of those resources, 275 are archaeological resources. There are 157 prehistoric-era archaeological resources comprised primarily of temporary occupation sites, hunting/processing camps, habitation sites, milling stations, lithic scatters, rock features, quarry/single reduction loci, and rock art sites (in order of frequency). There are 118 recorded historic-era archaeological resources which include homesteading, ranching and agriculture, mining, town and urban sites.

The remaining resources are built environment resources, which include buildings, roads, trails, bridges, canals, and railroads associated with the time period that begins with the first contact between Euro-Americans and native cultures. The County is rich in historic resources because non-native settlement dates to the 1830s. Several hundred properties within the County appear to meet the criteria for listing in state and federal historic registers. Sites that are officially listed in the NRHP and/or CRHR are shown in Table 12-2, based on data provided on the State Office of Historic Preservation website (<http://ohp.parks.ca.gov/ListedResources/?view=county&criteria=57>).

A fossil location search of Yolo County identified eight fossil sites within or directly adjacent to the County. Five fossil sites with 46 Blancan-age (4,750,000 to 1,808,000 years before present) vertebrate (bony fish, mammals, and reptiles) specimens were found in the Pliocene Tehama Formation. One fossil location with two Rancholabrean-age (240,000 years to 11,000 years before present) mammals (horses) was found in

the Pleistocene Red Bluff formation. Two fossil sites with two Rancholabrean-age mammals were found in undifferentiated Pleistocene alluvium. Three additional fossil sites with Rancholabrean-age vertebrate specimens have been identified along Putah Creek, but it is unknown whether these sites were on the Yolo or Solano County side of the creek. These fossils are in the Pleistocene-age (see Table 12-1) Montezuma Formation. The sites identified during the search occur in four distinguishable geologic formations, all of which are known to contain fossils. Most sedimentary geological units of Yolo County are paleontologically sensitive.

The Yolo County General Plan EIR also identifies fossil site records in the County available on the University of California Museum of Paleontology website. These included: 15 Late Cretaceous microfossil sites; 27 Late Cretaceous invertebrate fossil sites; 32 fossil sites in the Eocene Capay formation; two Eocene fossil sites outside the Capay formation; seven fossil sites with 25 vertebrate specimens in the Pliocene Tehama Formation; and six Pleistocene fossil sites with 17 vertebrate specimens.

California State Historical Landmarks

The State of California began memorializing sites of statewide historic importance in 1932 with what is now known as the California State Historical Landmarks program. The criteria for consideration have been refined over the long history of this program; today a State Historical Landmark must be the first, last, only, or most significant of a type in a large geographic area. Two resources in Yolo County have been designated as California Historical Landmark (Table 12-2).

California Points of Historical Interest

California Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and must be one of the following.

- ▲ The first, last, only, or most significant of its type in the state or within the local geographic region (city or county).
- ▲ Associated with an individual or group having a profound influence on the history of the local area.
- ▲ A prototype of, or an outstanding example of, a period, style, architectural movement or construction.
- ▲ One of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

If a Point of Historical Interest is subsequently granted status as a Landmark, the Point designation will be retired. Eight resources in Yolo County are Points of Historical Interest (Table 12-2).

Table 12-2 Yolo County Historic Resources by Designation

Resource (Landmark Plaque Number)	Vicinity	NRHP- listed	California Historical Landmark	CRHR- listed	Point of Historical Interest
Animal Science Building (N1442)	Davis	X			
Beamer, R. H., House (N1131)	Woodland	X			
Canon School (N177)	Brooks	X			
Capay School (P567)	Capay				X
Davis Subway (N2023)	Davis	X			
Downtown Woodland Historic District (N2060)	Woodland	X			
Dresbach-Hunt-Boyer House (N439)	Davis	X			
First Pacific Coast Salmon Cannery Site (N35)	Broderick	X			

Table 12-2 Yolo County Historic Resources by Designation

Resource (Landmark Plaque Number)	Vicinity	NRHP- listed	California Historical Landmark	CRHR- listed	Point of Historical Interest
Gable Mansion (864)	Woodland		X		
Gibson, William B., House (N449)	Woodland	X			
Hotel Woodland (N1881)	Woodland	X			
I.O.O.F. Building (N1048)	Woodland	X			
Leonidas Taylor Monument (P765)	West Sacramento				X
Main Street Historic District- Winters (N1967)	Winters	X			
Mary's Chapel and Cemetery (P213)	Yolo				X
Moore, James, House (N697)	Woodland	X			
Nelson Ranch (N186)	Woodland	X			
Porter Building (N710)	Woodland	X			
Rumsey Town Hall (N179)	Rumsey	X			
Russell Boulevard (P144)	Davis				X
Saint Agnes Church (P214)	Woodland				X
Southern Pacific Railroad Station (N450)	Davis	X			
Tufts, Joshua B., House (N816)	Davis	X			
Union Church of Dunnigan (N2210)	Dunnigan	X			
Walnut Street School (N2318)	Woodland	X			
Washington Firehouse (C14)	West Sacramento			X	
William B. Gibson House, Yolo County Museum (P767)	Woodland				X
Woodland Congregational Ch, First Ch of Christ Scientist (P374)	Woodland				X
Woodland Opera House (851)	Woodland	X	X		
Woodland Public Library (N973)	Woodland	X			
Yolo Branch Library (N1666)	Yolo	X			
Yolo County Courthouse (P766)	Woodland				X

Sources: Yolo County 2009a; Yolo County 2009b; State Office of Historic Preservation website (<http://ohp.parks.ca.gov/ListedResources/?view=county&criteria=57>).

12.2.2 Regulatory Setting

FEDERAL LAWS AND REGULATIONS

National Environmental Policy Act

In accordance with NEPA, an agency must consider:

- ▲ unique characteristics of the geographic area, such as proximity to historic or cultural resources (40 CFR 1508), and

- ▲ the degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP) (40 CFR 1508.27[b][8]).

Section 106 of the National Historic Preservation Act

Federal and federally-sponsored programs and projects are reviewed pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966 as amended by 16 U.S. Code 470. Section 106 of the NHPA requires federal agencies to consider the effects of proposed federal undertakings on historic properties. NHPA requires federal agencies to initiate consultation with the State Historic Preservation Officer as part of the Section 106 review process.

Section 106 of the NHPA requires consideration of effects on properties that are listed in, or may be eligible for listing in the NRHP. The NRHP is the nation's master inventory of known historic resources. It is administered by the National Park Service and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, and cultural districts that are considered significant at the national, state, or local level.

The formal criteria (36 CFR 60.4) for determining NRHP eligibility are as follows:

1. The property is at least 50 years old (however, properties under 50 years of age that are of exceptional importance or are contributors to a district can also be included in the NRHP);
2. It retains integrity of location, design, setting, materials, workmanship, feeling, and associations; and
3. It possesses at least one of the following characteristics:
 - a. Association with events that have made a significant contribution to the broad patterns of history (events).
 - b. Association with the lives of persons significant in the past (persons).
 - c. Distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant, distinguishable entity whose components may lack individual distinction (architecture).
 - d. Has yielded, or may be likely to yield, information important to prehistory or history (information potential).

Advisory Council on Historic Preservation

Under federal law, the Criteria of Adverse Effect for historic properties are set forth by the Advisory Council on Historic Preservation in its implementing regulations, 36 CFR Part 800. As codified in 36 CFR Part 800.4(d)(2), if historic properties may be affected by a federal undertaking, the agency official shall assess adverse effects, if any, in accordance with the Criteria of Adverse Effect.

The Criteria of Adverse Effect (36 CFR 800.5 [a][1]) reads:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the [NRHP] in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the [NRHP]. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

36 CFR 800.5 (a)(2) reads:

Adverse effects on historic properties include, but are not limited to:

- (i) Physical destruction of or damage to all or part of the property;
- (ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the [Secretary of the Interior's] Standards for the Treatment of Historic Properties (the Standards) (36 CFR part 68) and applicable guidelines;
- (iii) Removal of the property from its historic location;
- (iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
- (v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;
- (vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and
- (vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

American Indian Religious Freedom Act of 1978

The American Indian Religious Freedom Act of 1978 (AIRFA) (42 USC Sections 1996 and 1996a) affirms the right of Native Americans to have access to their sacred places. If a place of religious importance to American Indians could be affected by a federal undertaking, AIRFA promotes consultation with Indian religious practitioners, which could be coordinated with Section 106 consultation. Amendments to Section 101 of NHPA in 1992 strengthened the interface between AIRFA and NHPA by clarifying the following: (1) properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization could be determined to be eligible for inclusion in the NRHP; and (2) in carrying out its responsibilities under Section 106, a federal agency shall consult with any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to properties described under (1).

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (Title 25, USC, § 3001 *et seq.*), in addition to requiring federal agencies and federally funded projects to document Native American human remains and cultural items within their collections and providing an opportunity for repatriation of these materials, requires federal agencies to develop plans for dealing with potential future collections of Native American human remains and associated funerary objects, sacred objects, and objects of cultural patrimony that are discovered as a result of projects funded or overseen by the federal government.

STATE LAWS AND REGULATIONS

California Register of Historical Resources

All properties listed in or formally determined eligible for listing in the NRHP are eligible for the California Register of Historical Resources (CRHR). The CRHR is a listing of State of California resources that are significant within the context of California's history. The CRHR is a statewide program of similar scope and

with similar criteria for inclusion as those used for the NRHP. In addition, properties designated under municipal or county ordinances are also eligible for listing in the CRHR.

A historic resource must be significant at the local, state, or national level under one or more of the criteria defined in the California Code of Regulations (CCR) Title 15, Chapter 11.5, Section 4850. The CRHR criteria are similar to the NRHP criteria and are tied to CEQA because any resource that meets the criteria below is considered a historical resource under CEQA.

The CRHR uses four evaluation criteria:

1. Is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
2. Is associated with the lives of persons important to local, California, or national history.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Similar to the NRHP, a resource must meet one of the above criteria and retain integrity. The CRHR addresses integrity in the same manner as the NRHP.

California Environmental Quality Act

Historical Resources

CEQA requires that public or private projects financed or approved by state or local public agencies be assessed to determine their potential to affect historical resources. CEQA uses the term *historical resources* to include buildings, sites, structures, objects, or districts, each of which may have historical, pre-historical, architectural, archaeological, cultural, or scientific importance. CEQA states that if implementation of a project would result in significant effects on historical resources, then alternative plans or mitigation measures must be considered; however, only significant historical resources need to be addressed (14 CCR 15064.5, 15126.4). Therefore, before impacts and mitigation measures can be identified, the significance of historical resources must be determined.

The state's CEQA guidelines define three ways that a property may qualify as a historical resource for the purposes of CEQA review.

- ▲ The resource is listed in or determined eligible for listing in the CRHR.
- ▲ The resource is included in a local register of historical resources, as defined in Section 5020.1[k] of the Public Resources Code or identified as significant in a historical resource survey meeting the requirements of section 5024.1[g] of the Public Resources Code, unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- ▲ The lead agency determines the resource to be significant as supported by substantial evidence in light of the whole record (CCR, Title 14, Division 6, Chapter 3, section 15064.5[a]).

Each of these ways of qualifying as an historical resource for the purpose of CEQA is related to the eligibility criteria for inclusion in the CRHR (PRC 5020.1[k], 5024.1, 5024.1[g]). The CRHR is described further above.

According to CEQA, a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant impact on the environment (14 CCR 15064.5[b]). Under CEQA, a *substantial adverse change* in the significance of a resource means the physical demolition,

destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. Actions that would *materially impair* the significance of a historic resource are any actions that would demolish or adversely alter the physical characteristics that convey the property's historical significance and qualify it for inclusion in the CRHR or in a local register or survey that meet the requirements of PRC 5020.1[k] and 5024.1[g].

Tribal Cultural Resources

Section 21074 of the CEQA Statute defines tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either a) included or determined to be eligible for inclusion in the California Register of Historical Resources or b) included in a local register of historical resources. A lead agency can also identify, based on substantial evidence, that a tribal cultural resource is significant. A cultural landscape may also be considered a tribal cultural resource if it meets either criteria a) or b) above and to the extent the landscape is geographically defined in terms of the size and scope of the landscape. The assessment of tribal cultural resources in a CEQA document is subject to the conditions of the originating legislation, Assembly Bill 52 (AB 52), described below.

California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural and Sacred Sites Act applies to both State and private lands. The Act requires that upon discovery of human remains, construction or excavation activity cease and the County Coroner be notified. If the remains are of a Native American, the coroner must notify the Native American Heritage Commission (NAHC). The NAHC then notifies those persons most likely to be descended from the Native American's remains. The Act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

California Health and Safety Code—Treatment of Human Remains

Under Section 8100 of the California Health and Safety Code, six or more human burials at one location constitute a cemetery. Disturbance of Native American cemeteries is a felony (Health and Safety Code Sec. 7052).

Section 7050.5 of the Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the County Coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the Coroner must then contact the NAHC, which has jurisdiction pursuant to Section 5097 of the California Public Resources Code.

When human remains are discovered or recognized in any location other than a dedicated cemetery, no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains may take place until the County Coroner has been informed and has determined that no investigation of the cause of death is required; and, if the remains are of Native American origin, either

- ▲ the descendants of the deceased Native American(s) have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC 5097.98; or
- ▲ the NAHC was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.

Assembly Bill 52

AB 52, signed by Governor Brown in September of 2014, establishes a new class of resources under CEQA: "tribal cultural resources." It requires that lead agencies undertaking CEQA review must, upon written request of a California Native American tribe, begin consultation once the lead agency determines that the application for the project is complete, before the issuance of a notice of preparation (NOP) for an environmental impact report (EIR) or notice of intent to adopt a negative declaration or mitigated negative declaration. AB 52 also requires revision to CEQA Appendix G, the environmental checklist. This revision

would create a new category for “tribal cultural resources” (see the definition of tribal cultural resources provided above in the discussion of the California Environmental Quality Act)

AB 52 currently applies to those projects for which a lead agency has issued an NOP for an EIR or notice of intent to adopt a negative declaration or mitigated negative declaration on or after July 1, 2015. As the NOP for this Project was issued on October 21, 2011, the requirements of AB 52 do not apply.

LOCAL LAWS AND REGULATIONS

Yolo County Code

Chapter 8 of the Yolo County Code pertains to the treatment of local historic landmarks and historic districts. Overseen by the Historic Resources Commission, this section of the code provides for the identification, protection, enhancement, perpetuation, and use of cultural resources within the County that reflect elements of its cultural, agricultural, social economic, political, aesthetic, military, maritime, engineering, archaeological, religious, ethnic, natural, architectural and other heritage.

A building, structure, object, particular place, vegetation, or geology, may be designated a County historic landmark if it meets one or more of the following criteria:

- ▲ it exemplifies or reflects valued elements of the County’s cultural, agricultural, social, economic, political, aesthetic, military, religious, ethnic, natural vegetation, architectural, maritime, engineering, archaeological, or geological history; or
- ▲ it is identified with persons or events important in local, State, or national history; or
- ▲ it reflects significant geographical patterns, including those associated with different eras of settlement and growth and particular transportation modes; or
- ▲ it embodies distinguishing characteristics or an architectural style, type, period, or method of construction or is a valuable example of the use of indigenous materials or craftsmanship; or
- ▲ it is representative of the notable work of a builder, designer or architect; or
- ▲ it represents an important natural feature or design element that provides a visual point of reference to members of the community.

When an area includes at least two designated historic landmarks in such proximity that they create a setting historically or culturally significant to the local community, the State, or the nation, sufficiently distinguishable from other areas of the County, then a historic district may be established. Historic districts may include buildings, structures, and sites that individually do not meet criteria for landmark status, but that collectively express their historical significance. With the exception of those types of projects specified in the design review guidelines or work authorized by the Building Official upon written approval of the Planning and Public Works Department for protection of public safety, projects that would demolish, move, remove, alter the exterior appearance of, or otherwise affect a designated historic landmark or any structure located in a designated historic district must first obtain written approval from the Historic Preservation Commission.

Yolo County 2030 Countywide General Plan

The goals and policies of the Land Use and Community Character Element and the Conservation and Open Space Element of the Yolo County General Plan seek to ensure a balanced management of the County’s multiple natural and cultural resources. Goals and policies specific to cultural resources and potentially relevant to the HCP/NCCP are:

Goal CC-4 Project Design. Require project design that incorporates “smart growth” planning principles and “green” building standards that reflect the County’s commitment to sustainable development

- ▲ **Policy CC-1.5:** Significant site features, such as trees, water courses, rock outcroppings, historic structures and scenic views shall be used to guide site planning and design in new development. Where possible, these features shall become focal points of the development.
- ▲ **Policy CC-4.11:** Site specific information shall be required for each application, subject to site conditions and available technical information, as determined by the County lead department, in order to enable informed decision-making and ensure consistency with the General Plan and with the assumptions of the General Plan EIR. Technical information and surveys requested may include, but not be limited to, the following: air quality and/or greenhouse gas emissions calculations, agricultural resource assessment/agricultural and evaluation and site assessment (LESA), biological resources assessment, cultural resources assessment, fiscal impact analysis, flood risk analysis, hydrology and water quality analysis, geotechnical/soils study, land use compatibility analysis, noise analysis, Phase One environmental site assessment, sewer capacity and service analysis, storm drainage capacity and service analysis, title report, traffic and circulation study, visual simulation and lighting study, and water supply assessment. When a technical study is required, it must cover the entire acreage upon which development is being proposed including any off-site improvements (e.g. wells; pumps; force mains; new roads; dirt borrow sites; etc.) that may be necessary. Technical studies must meet CEQA standards and the standards in the applicable industry. As necessary, the technical studies shall include recommendations that are to be implemented as part of the project.
- ▲ **Policy CC-1.15:** The following features shall be protected and preserved along designated scenic roadways and routes, except where there are health and safety concerns:
 - Trees and other natural or unique vegetation
 - Landforms and natural or unique features
 - Views and vistas
 - Historic structures (where feasible), including buildings, bridges and signs

Goal CO-4 Cultural Resources. Preserve and protect cultural resources within the County.

- ▲ **Policy CO-4.1** Identify and safeguard important cultural resources.
- ▲ **Policy CO-4.11** Honor and respect local tribal heritage.
- ▲ **Policy CO-4.12** Work with culturally affiliated tribes to identify and appropriately address cultural resources and tribal sacred sites through the development review process
- ▲ **Policy CO-4.13** Avoid or mitigate to the maximum extent feasible the impacts of development on Native American archaeological and cultural resources.
- ▲ **Policy CO-2.22:** Prohibit development within a minimum of 100 feet from the top of banks for all lakes, perennial ponds, rivers, creeks, sloughs, and perennial streams. A larger setback is preferred. The setback will allow for fire and flood protection, a natural riparian corridor (or wetland vegetation), a planned recreational trail where applicable, and vegetated landscape for stormwater to pass through before it enters the water body. Recreational trails and other features established in the setback should be unpaved and located along the outside of the riparian corridors whenever possible to minimize intrusions and maintain the integrity of the riparian habitat. Exceptions to this action include irrigation pumps, roads and bridges, levees, docks, public boat ramps, and similar uses, so long as these uses are sited and operated in a manner that minimizes impacts to aquatic and riparian features.

City of Davis General Plan

Chapter 16, Historic and Archaeological Resources, of the City of Davis General Plan contains the following goals and policies related to cultural resources that are potentially relevant to the HCP/NCCP.

Goal HIS 1: Designate, preserve and protect the archaeological and historic resources within the Davis community.

- ▲ **Policy HIS 1.1** Maintain an inventory of archaeological and historic resources.
- ▲ **Policy HIS 1.2:** Incorporate measures to protect and preserve historic and archaeological resources into all planning and development.
- ▲ **Policy HIS 1.4** Preserve historic features of the core area and historic districts.

City of West Sacramento General Plan

City of West Sacramento General Plan contains the following goal and policies that relate to cultural resources that may be applicable to the analysis of the HCP/NCCP:

Goal NRC-9. To preserve and enhance West Sacramento's important historical, archaeological, and paleontological resources to increase awareness of the City's heritage.

- ▲ **Policy NCR-9.1. Significant Resource Preservation.** The City shall ensure the preservation of significant historical, archaeological, tribal cultural, and paleontological resources, including those recognized at the national, state, and local levels.
- ▲ **Policy NCR-9.3. Historic Districts.** The City shall establish historic districts in appropriate areas of the city, and develop standards for preservation and rehabilitation of historic structures and compatible infill development. **Policy NCR-9.4. Historic Survey.** The City shall cooperate in the expansion and updating of the Yolo County Historical Resources Survey.
- ▲ **Policy NCR-9.5. State or National Register.** The City shall work with property owners to seek listing of significant historical resources on the California Register of Historical Resources and/or the National Register of Historic Places, where appropriate.
- ▲ **Policy NCR-9.6. Maintenance, Preservation, and Renovation of Historic and Architecturally Significant Structures.** The City shall encourage the maintenance and preservation of historically- and architecturally-significant structures. Where such buildings cannot be preserved intact, the City shall encourage the preservation of character-defining features (e.g., building facades), where feasible.
- ▲ **Policy NCR-9.7. Adaptive Reuse.** The City shall, where appropriate and feasible, encourage adaptive reuse of historical resources when the original use of the resource is no longer feasible.
- ▲ **Policy NCR-9.8. Relocation.** The City shall ensure that historically- and/or architecturally-significant buildings or structures proposed for demolition are considered for relocation, where appropriate and feasible, as a means of preservation. The City shall encourage relocation within the same neighborhood, or to another compatible neighborhood or district.
- ▲ **Policy NCR-9.9. Demolition.** The City shall consider demolition of historic resources as a last resort, permitted only if adaptive reuse or relocation is not feasible and/or would pose a public safety hazard.
- ▲ **Policy NCR-9.11. Compatibility of New Development.** The City shall require that new development near designated historical resources (e.g., buildings, structures, districts) is designed to be compatible with the character of the designated historic resource.
- ▲ **Policy NCR-9.15. Early Identification of Resources.** For development and infrastructure projects, the City shall endeavor to identify sensitive resources early in project design efforts to avoid (e.g. to allow preservation in place) or minimize impacts.

City of Winters General Plan

The following goals and policies related to cultural resources from the City of Winters General Plan are potentially relevant to the HCP/NCCP.

Goal V.D: To preserve and enhance Winters' historical heritage.

- ▲ **Policy V.D.1.** Winters' historically and architecturally significant buildings and sites should be preserved and enhanced to the fullest degree possible.
- ▲ **Policy V.D.2.** The City shall continue to implement the City's Historic Preservation Ordinance and the State Historic Building Code. The Historic Preservation Ordinance and State Historic Building Code should be made applicable to all historically-significant structures in Winters.

Goal V.F: To protect Winters' Native American heritage.

- ▲ **Policy V.F.1.** The City shall refer development proposals that may adversely affect archaeological sites to the Northwest Information Center of the California Archaeological Inventory for review and comment.
- ▲ **Policy V.F.2.** The City shall undertake an archaeological sensitivity survey of the entire area within the Urban Limit Line. Such study shall classify areas as "low-sensitivity," "moderate sensitivity," and "high-sensitivity." Within areas classified as "high-sensitivity," an archeological site survey will be required in conjunction with project applications. In all other areas, no field surveys will be required. However, if archeological artifacts are discovered during grading or construction, grading or construction must stop pending an archeological investigation and identification of appropriate mitigation measures. City implementation of this policy shall be guided by Appendix K of the State CEQA Guidelines.

City of Woodland General Plan

The City of Woodland General Plan sets the framework for a comprehensive program to foster historic preservation efforts in Woodland. The following goal and policies are potentially relevant to the HCP/NCCP.

Goal 2.P: Historic Programs and Requirements. Preserve, maintain, and celebrate sites and structures that serve as significant, visible reminders of the city's social, architectural and agricultural history through adherence to federal, state and local programs and requirements.

- ▲ **Policy 2.P.1:** Historic Resources Inventory. Maintain and regularly update an inventory of the city's Historic Resources that includes all historically and architecturally significant buildings, sites, landscapes, signs, and features within the city limits.
- ▲ **Policy 2.P.2:** Environmental Review. Require that environmental review be conducted for alterations and/or demolition of buildings designated as, or potentially eligible for designation as, historic structures as required by Chapter 12A of the Municipal Code and CEQA regulations.

12.3 ENVIRONMENTAL CONSEQUENCES

12.3.1 Methodology and Significance Criteria

METHODS AND ASSUMPTIONS

The evaluation of potential impacts to cultural resources is based on a review of the data sources identified and cited previously, above, in Section 12.1.1, *Environmental Setting*, and consultation by the lead agencies with Native Americans knowledgeable about cultural resources in the Plan Area. The impact conclusions are

informed by the provisions and requirements of federal, state, and local laws and regulations that apply to cultural resources.

As described in Section 3.3, the issuance of ITPs by the Wildlife Agencies for take of 12 covered species associated with five categories of covered activities—together with subsequent adoption and implementation of the Plan by the Applicants consistent with the Permits—is the Proposed Action considered in this EIS/EIR. Issuance of permits by the Wildlife Agencies only provides compliance with the FESA and NCCPA.

All covered activities are subject to the approval authority of one or more of the Applicants with jurisdiction over such projects, and HCP/NCCP approval and permit issuance for take of covered species does not confer or imply approval from any entity other than the U.S. Fish and Wildlife Service (USFWS) or California Department of Fish and Wildlife (CDFW) to implement the covered activities. Rather, as part of the standard approval process, individual projects will be considered for further environmental analysis and generally will receive separate, project-level environmental analysis review under CEQA and, in some cases, NEPA for those projects involving federal Agencies.

The assessment of potential effects on cultural and paleontological resources in the Plan Area is based on the anticipated changes in land cover and land uses over a 50-year study period, corresponding to the permit term under the Proposed Action Alternative.

Anticipated changes in land cover/land use for each alternative are described in Chapter 2, *Proposed Action and Alternatives*. See Chapter 3, *Approach to the Analysis*, for a description of the methodology used across all resource chapters for the analysis of cumulative effects.

As described in Chapter 2, *Proposed Action and Alternatives*, the Conservancy has proposed a number of changes to the HCP/NCCP since the release of the Draft on June 1, 2017. These changes are described and Characterized in Section 2.3.2, *Alternative B – Proposed Action Alternative (Permit Issuance/Plan Implementation)*, of Chapter 2.

These proposed changes fall into several categories;

- ▲ Copy edits such as correction of spelling errors,
- ▲ Minor text clarifications and corrections such as providing or correcting cross references to other parts of the document,
- ▲ Minor numeric corrections, such as small adjustments to acreages of particular land cover types,
- ▲ Providing updated information since publication of the Draft HCP/NCCP such as including information from the City of Woodland General Plan Update 2035, which was adopted after the Draft HCP/NCCP was published,
- ▲ Clarifications or enhancements to particular plan elements such as new or updated Avoidance and Minimization Measures (AMMs),
- ▲ Increased details on plan implementation such as providing additional information on the content of the Implementation Handbook, and
- ▲ Changes in assumptions regarding costs and funding to reflect updated information.

These proposed changes have been analyzed to determine whether they would result in any changes to the impact analysis or conclusions reached in the Draft EIS/EIR. This analysis is provided in Section 24.2, *Evaluation of Proposed Modifications to the Draft HCP/NCCP*. The analysis substantiates that the proposed changes to the HCP/NCCP do not alter the analysis or impact conclusions provided in the Draft EIS/EIR for cultural and paleontological resources. Therefore, no changes to the analysis provided below are merited.

SIGNIFICANCE CRITERIA

Effects would be significant if an alternative would result in the following:

- ▲ cause a substantial adverse change in the significance of an historical resource as defined above in Section 15064.5 of the State CEQA Guidelines;
- ▲ cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5 of the State CEQA Guidelines;
- ▲ cause a substantial adverse change in the significance of a tribal cultural resource as defined in Section 21074 of the CEQA Statute;
- ▲ disturb any human remains, including those interred outside of formal cemeteries;
- ▲ directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- ▲ eliminate important examples of the major periods of California history or pre-history.

ISSUES NOT EVALUATED FURTHER

As described above under Section 12.2.2, *Regulatory Setting*, AB 52 (signed in September of 2014) establishes a new class of resources under CEQA: “tribal cultural resources.” AB 52 currently applies to those projects for which a lead agency has issued a NOP for an EIR or notice of intent to adopt a negative declaration or mitigated negative declaration on or after July 1, 2015. As the NOP for this project was issued on October 21, 2011, the requirements of AB 52 do not apply. Therefore, tribal cultural resources, in the context of AB 52, are not discussed further in this EIR. However, the lead agencies have coordinated with local tribal groups through correspondence and meetings, and continue to coordinate with these groups. To date, no group has indicated that any modifications to the Plan are needed to avoid effects on tribal cultural resources.

12.3.2 Effects of Proposed Action and Alternatives

ALTERNATIVE A—NO ACTION ALTERNATIVE (NO PERMIT/NO PLAN IMPLEMENTATION)

Environmental Consequences/Environmental Effects

As described previously in Chapter 2, *Proposed Action and Alternatives*, under the No Action Alternative (Alternative A), take associated with development would occur over the 50-year study period consistent with the local general plans and other applicable planning documents (e.g., community plans, specific plans, recreation plans). As also described in Chapter 2, for purposes of this analysis, development and related activities (e.g., operations and maintenance) under the No Action Alternative are considered using the same organizational categories identified in the Yolo HCP/NCCP; urban projects and activities; rural projects and activities, which includes rural public services, infrastructure, and utilities, agricultural economic development, and open space; and public and private operations and maintenance. Under the No Action Alternative, the Plan would not be approved and implemented and no Endangered Species Act authorizations would be issued by USFWS or CDFW related to the Plan. Endangered species permitting and mitigation would continue on an individual project-by-project basis.

Urban projects and activities would be concentrated within the Cities of Davis, West Sacramento, Winters, and Woodland. Rural projects and activities would primarily occur within and around the existing communities within the unincorporated county (primarily Elkhorn, Madison, Clarksburg, Dunnigan, Esparto, and Knights Landing). Activities associated with the rural public services, infrastructure, and utilities and agricultural economic development and open space sub-categories would occur in various locations in the

unincorporated county. Public and private operations and maintenance activities would occur both in the incorporated cities and the unincorporated county. These development activities could involve demolition or alterations of buildings or structures which could change the significance of the historical resource, and ground-disturbing activities which could damage or destroy archaeological resources, human remains, or paleontological resources.

Historical resources include standing buildings (e.g., houses, barns, outbuildings, cabins) and intact structures (e.g., dams, bridges). As stated above in Section 12.2.1, *Environmental Setting*, which describes known cultural and paleontological resources, the County is rich in historic resources because non-native settlement dates to the 1830s. Several hundred properties within the County are listed or appear to meet the criteria for listing in state and federal historic registers.

Archaeological resources include both pre-contact and historical artifacts. Certain areas of Yolo County have been determined to be more likely to contain archaeological deposits:

Pre-Contact Archaeological Deposits

- ▲ proximity to major Sacramento Valley watercourses,
- ▲ high ground near major watercourses,
- ▲ natural levees above sloughs, and
- ▲ creeks and drainages along the eastern slopes of the Coast range.

Historical Archaeological Deposits

- ▲ proximity to transportation corridors (e.g., historical highways, railroads, and navigable sloughs);
- ▲ historical ranches;
- ▲ areas of historical rock, soil, and mineral extraction;
- ▲ defunct communities or settlements; and
- ▲ historic neighborhoods and business districts.

Paleontological resources include mineralized, partially mineralized, and unmineralized bones and teeth; soft tissues; shells; wood; leaf impressions; footprints; burrows; and microscopic remains that are more than 5,000 years old and occur mainly in Pleistocene or older sedimentary rock units. The geological formations that underlie Yolo County are generally considered to be paleontologically sensitive and paleontological resources are known to occur in the county.

Activities that could adversely affect archaeological and paleontological resources and human remains would typically, though not exclusively, include ground-disturbing activities in previously undisturbed sediments. Activities that could adversely affect built resources could result from a wide range of activities under the No Action Alternative (e.g., implementation of the general plan and specific plans, development projects, replacement of bridges). Based on prior implementation of these activities pursuant to the local processes and other regulatory standards (e.g., National Historic Preservation Act), it is expected that impacts to cultural resources would occur under the No Action Alternative. These impacts would be evaluated on a case-by-case basis pursuant to NEPA and CEQA, as applicable, and potentially significant impacts would be identified and mitigated pursuant to the requirements of appropriate laws and regulations. These activities are expected to be conducted in accordance with the regulatory processes described above in Section 12.2.2, *Regulatory Setting*.

The combination of federal and State regulations (e.g., NEPA, CEQA, NHPA, California Health and Safety Code, AB52) and local codes and policies (e.g., Yolo County code protecting designated historic landmarks and historic districts, various general plan policies requiring the identification and protection of cultural resources) would require as part of the implementation of projects and activities:

- ▲ the identification of potential cultural resources through both searches of available records and field investigation;

- ▲ coordination with Native American groups and the NAHC;
- ▲ the identification and implementation of measures to address the inadvertent discovery of previously unknown cultural resources;
- ▲ proper mapping, recordation, reporting, and if appropriate, archiving of newly identified cultural resources; and
- ▲ development and implementation of appropriate avoidance, protection measures, or other mitigation depending on the nature and significance of the resource.

As the development and other activities are implemented under the No Action Alternative, impacts to threatened and endangered species and other biological resources would occur, requiring mitigation. Mitigation measures are likely to include areas of preservation lands throughout Yolo County, or nearby sites outside the county with authorization from the permitting agencies. Generally, these required mitigation actions under the No Action Alternative would either retain lands in their existing conditions (i.e., preserve habitat), or convert lands to a more natural state (i.e., habitat restoration or creation). While retaining lands in their existing conditions would have no effect on cultural resources, habitat restoration or creation could involve ground-disturbing activities that could damage or destroy historical resources, archaeological resources, human remains, or paleontological resources.

The combination of federal and State regulations and local codes and policies identified above for development and other activities would also apply to mitigation actions. More specifically, the Yolo County General Plan contains policies that provide for the identification of archaeological deposits that qualify as historical resources and that may be subject to impacts from ground disturbance and other activities. These policies and actions require consultation with tribal entities, pre-permitting cultural resource assessments, and the development of feasible mitigation to minimize impacts in advance of project implementation. Policies CO-4.13, CC-1.15, and CC-1.5 call for the mitigation of impacts to architectural resources, encourage the retention of historical structures and trees along scenic roads and in project sites, and provide for the input from preservation professionals and descendant communities in developing mitigation strategies. Policy CC-4.11, in particular, addresses the project-specific identification of cultural resource issues by including pre-permitting resource assessments. Policy CO-2.22, in particular, provides a degree of protection for those archaeological deposits that are located within 100 feet of the top of banks for all lakes, perennial ponds, rivers, creeks, sloughs, and perennial streams. These requirements provide an effective mechanism to ensure that potential impacts to cultural resources are appropriately addressed and mitigated.

Cumulative Effects

Expansion of development in urban and rural areas (i.e., Davis, West Sacramento, Winters, Woodland) over the past century has resulted in loss of cultural resources. Resources on the ground surface or buried near the ground surface have also likely been damaged or removed by agricultural activities. It is likely that many cultural resource sites and historic properties have been lost or significantly damaged in the Plan Area. The response to this loss includes the enactment of laws, regulations, and policies to protect cultural resources (see Section 12.2.2, *Regulatory Setting*, above). As described above, these laws, regulations, and policies prescribe actions such as detailed archaeological surveys and recordation of historic properties, and review of individual development actions by local commissions and municipal staff. Therefore, more recent projects (i.e., since enactment of the various regulations and policies) would identify potentially significant cultural and paleontological resource impacts and avoid or otherwise mitigate for these impacts.

Other foreseeable future projects and activities outside the context of the No Action development scenario (see Chapter 3, Section 3.5, *Cumulative Effects Analysis Methodology*), such as wind and solar power developments, projects implemented by Caltrans, and some flood control facilities, could further contribute to adverse cumulative effects on cultural and paleontological resources. However, these projects and activities would be subject to the same regulatory requirements related to the protection of cultural and

paleontological resources. Therefore, although past projects may have made substantial contributions to a cumulative effect on cultural and paleontological resources; more recent projects (i.e., present projects) and reasonably foreseeable future projects would typically not contribute to cumulative effects on these resources.

Under the No Action Alternative, implementation of urban projects and activities, rural projects and activities, rural public services (infrastructure and utilities, agriculture economic development and open space), and public and private operations and maintenance, in addition to possible biological mitigation measures, could adversely affect archaeological and paleontological resources and human remains through ground-disturbing activities in previously undisturbed sediments. Implementation of these projects could include physical demolition, destruction, relocation, or alteration of historical resources such that the significance of the historical resource would be materially impaired. However, laws, regulations, and policies would require avoidance of, or mitigation for significant effects. Although the potential remains for individual projects to not be able to fully avoid or mitigate significant effects, these situations would be uncommon. Therefore, projects and activities included as part of the No Action Alternative would not make a cumulatively considerable contribution to a significant cumulative impact related to cultural and paleontological resources.

ALTERNATIVE B—PROPOSED ACTION (PERMIT ISSUANCE/PLAN IMPLEMENTATION)

Environmental Consequences/Environmental Effects

The Proposed Action Alternative (Alternative B) incorporates the same development-related activities identified for the No Action Alternative (urban projects and activities, rural projects and activities, and public and private operations and maintenance), with the HCP/NCCP providing a mechanism for the Wildlife Agencies to provide incidental take authorization for these lawfully undertaken covered activities. Cultural resource impacts as a result of these activities would be the same as those described under the No Action Alternative.

Where the Proposed Action Alternative differs from the No Action Alternative is in the implementation of the Yolo HCP/NCCP, including its conservation strategy and neighboring landowner protection program. The following impact discussions focus on the elements of the HCP/NCCP that differ from the No Action Alternative. The primary result of the neighboring landowner protection program from a cultural resources perspective would be the general preservation of existing conditions on lands adjacent to HCP/NCCP reserve system lands. The voluntary neighboring landowner protection program is described in more detail in Chapter 2, *Proposed Action and Alternatives*. Because the program does not result in new or additional ground disturbance beyond what would occur without the program, or alteration of historic properties, it would not have an effect on cultural resources, and is not evaluated further in the impact discussions below.

Effect CUL-1: Change in the significance of historical resources

Under the Proposed Action Alternative, biological resource mitigation lands would be grouped into larger areas as opposed to the anticipated use of smaller and more dispersed preservation lands under the No Action Alternative. Generally, these required mitigation actions would either retain lands in their existing conditions (i.e., preserve habitat), or convert lands to a more natural state (i.e., habitat restoration or creation). Retaining lands in their existing conditions would have no effect on historical resources. While it is unlikely that any land selected for habitat restoration or creation would contain known historical resources that are listed in the NRHP or CRHR, it is possible that unevaluated standing buildings (e.g., houses, barns, outbuildings, cabins) or intact structures (e.g., dams, bridges) would be located on the lands selected to be restored or converted. Given the regulatory and permitting requirements associated with modifying such a resource, the resource would be avoided as part of reserve development and management.

If avoidance were not undertaken, however, potential effects would be evaluated on a case-by-case basis pursuant to applicable laws and regulations such as NEPA, CEQA, and the NHPA. Potentially significant impacts would be identified and mitigated pursuant to the requirements of each law/regulation. In addition to federal and State laws, the Yolo County General Plan contains policies that provide for the identification of

cultural resources, as discussed under the No Impact Alternative. These cultural resources policies and actions require that historical resources (including important examples of the major periods of California history) are identified, evaluated, and appropriately treated.

In the context of effects on historical resources, potential effects from establishment and management of a reserve system under the Proposed Action Alternative would not be appreciably different from those under the No Action Alternative.

NEPA Level of Significance: As compared to the No Action Alternative, this impact is **less than significant**.

Potential effects from establishment and management of a reserve system under the Proposed Action Alternative would not result in a change in the significance of any existing historical resources.

CEQA Level of Significance: As compared to Existing Conditions, this impact is **less than significant**.

No mitigation is required.

Effect CUL-2: Disturb archaeological resources and human remains.

Under the Proposed Action Alternative, biological resource mitigation lands would be grouped into larger areas as opposed to the anticipated use of smaller and more dispersed preservation lands under the No Action Alternative. Generally, these required mitigation actions would either retain lands in their existing conditions (i.e., preserve habitat), or convert lands to a more natural state (i.e., habitat restoration or creation). While retaining lands in their existing conditions would have no effect on cultural resources, habitat restoration or creation could involve ground-disturbing activities that could damage or destroy archaeological resources or human remains. Unknown human remains are typically identified during archaeological construction monitoring, field surveys, testing, or data recovery.

If avoidance were not undertaken, however, potential effects would be evaluated on a case-by-case basis pursuant to applicable laws and regulations such as NEPA, CEQA, and the NHPA. Potentially significant impacts would be identified and mitigated pursuant to the requirements of each law/regulation. In addition to federal and State laws, the Yolo County General Plan contains policies that provide for the identification of cultural resources, as discussed under the No Impact Alternative. These cultural resources policies and actions ensure that archaeological resources and human remains are identified, evaluated, and appropriately treated.

In the context of effects on archaeological resources (including important examples of California pre-history) and human remains, potential effects from establishment and management of a reserve system under the Proposed Action Alternative would not be appreciably different from those under the No Action Alternative.

NEPA Level of Significance: As compared to the No Action Alternative, this impact is **less than significant**.

Potential effects from establishment and management of a reserve system under the Proposed Action Alternative would not result in significant adverse effects to archeological resources and human remains.

CEQA Level of Significance: As compared to Existing Conditions, this impact is **less than significant**.

No mitigation is required.

Effect CUL-3: Disturb a paleontological resource.

As with the No Action Alternative, as development and other activities described above are implemented as part of the Proposed Action Alternative, impacts to threatened and endangered species and other biological resources would occur, requiring mitigation. Under the Proposed Action Alternative, biological resource mitigation lands would be grouped into larger areas as opposed to the anticipated use of smaller and more dispersed mitigation lands under the No Action Alternative. Generally, these required mitigation actions would either retain lands in their existing conditions (i.e., preserve habitat), or convert lands to a more

natural state (i.e., habitat restoration or creation). While retaining lands in their existing conditions would have no effect on cultural resources, habitat restoration or creation could involve ground-disturbing activities that could damage or destroy paleontological resources or human remains. The geological formations that underlie Yolo County are generally considered to be paleontologically sensitive and paleontological resources are known to occur in the county.

If avoidance were not undertaken, however, potential effects would be evaluated on a case-by-case basis pursuant to applicable laws and regulations such as NEPA, CEQA, and the NHPA. Potentially significant impacts would be identified and mitigated pursuant to the requirements of each law/regulation. In addition to federal and State laws, the Yolo County General Plan contains policies which provide for the identification of cultural resources, as discussed under the No Impact Alternative. These cultural resources policies and actions ensure the application of professional standards for the recovery of scientific data from paleontological resources that may be affected.

In the context of effects paleontological resources, potential effects from establishment and management of a reserve system under the Proposed Action Alternative would not be appreciably different from those under the No Action Alternative.

NEPA Level of Significance: As compared to the No Action Alternative, this impact is **less than significant**.

Potential effects from establishment and management of a reserve system under the Proposed Action Alternative would not result in significant adverse effects to paleontological resources.

CEQA Level of Significance: As compared to Existing Conditions, this impact is **less than significant**.

No mitigation is required.

Cumulative Effects

The existing cumulative condition in the Plan Area resulting from past, present, and reasonably foreseeable future projects is described above for the No Action Alternative and remains the same for the Proposed Action Alternative.

The contribution of the Proposed Action Alternative to the cumulative condition for cultural resources would essentially be the same as compared to the No Action Alternative. Implementation of urban projects and activities, rural projects and activities, rural public services (infrastructure and utilities, agriculture economic development and open space), and public and private operations and maintenance receiving incidental take authorization under the Proposed Action Alternative would occur at generally the same intensity as under the No Action Alternative. There would be a similar potential to affect cultural and paleontological resources, and the same regulatory and policy requirements to identify, avoid, and mitigate for resources. This same conclusion also applies to establishment of the reserve system. Because of the regulatory requirements to avoid and mitigate for impacts, implementation of the Proposed Action Alternative would not result in a considerable adverse contribution to the combined effects of past, current, and probable future projects on paleontological and cultural resources. The Proposed Action Alternative would make roughly an equivalent contribution to cumulative impacts compared to the No Action Alternative.

NEPA Level of Significance: As compared to the No Action Alternative, this impact is **less than significant**.

CEQA Level of Significance: As compared to Existing Conditions, this impact is **less than significant**.

ALTERNATIVE C— REDUCED TAKE ALTERNATIVE

Environmental Consequences/Environmental Effects

The Reduced Take Alternative (Alternative C) would include the same categories of covered activities as the Proposed Action Alternative (Alternative B); however, the Reduced Take Alternative contains eight areas designated for development under the Proposed Action in which no activities that would result in take of covered species would be permitted. See Chapter 2, Section 2.3.3, *Alternative C-Reduced Take Alternative* for more information on this alternative. Impacts to cultural and paleontological resources as a result of implementation of the Reduced Take Alternative would be similar to those discussed under the No Action Alternative and the Proposed Action Alternative; however, given that less development would occur, there is the potential for less disturbance to cultural and paleontological resources.

Overall, under the Reduced Take Alternative, impacts CUL-1, CUL-2, and CUL-3 would not be appreciably different from what is described for the Proposed Action Alternative.

NEPA Level of Significance: As compared to the No Action Alternative, this impact is **less-than-significant**.

CEQA Level of Significance: As compared to the Proposed Action Alternative, this impact is similar and is **less than significant**.

No mitigation is required.

Cumulative Effects

The existing cumulative condition in the Plan Area resulting from past, present, and reasonably foreseeable future projects is described above for the No Action Alternative and remains the same for the Reduced Take Alternative. The individual effects on cultural resources under the Reduced Take Alternative are not substantially different from those described for the Proposed Action Alternative or the No Action Alternative, and there would be the same regulatory and policy requirements to identify, avoid, and mitigate for resources. Because of the regulatory requirements to avoid and mitigate for impacts, implementation of the Reduced Take Alternative would not result in a considerable adverse contribution to the combined effects of past, current, and probable future projects on paleontological and cultural resources. The Reduced Take Alternative would make roughly an equivalent contribution to cumulative impacts compared to the No Action Alternative.

NEPA Level of Significance: As compared to the No Action Alternative, this impact is **less-than-significant**.

CEQA Level of Significance: As compared to the Proposed Action Alternative, this impact is similar and is **less than significant**.

ALTERNATIVE D— REDUCED DEVELOPMENT ALTERNATIVE

Environmental Consequences/Environmental Effects

The Reduced Development Alternative (Alternative D) would include the same categories of covered activities as the Proposed Action Alternative (Alternative B), but under the Reduced Development Alternative, development within a portion of the west side of the Dunnigan area, and the Elkhorn Specific Plan Area, would not be covered activities under the Yolo HCP/NCCP and therefore could not be provided incidental take authorization through the Plan. See Chapter 2, Section 2.3.4, *Alternative D-Reduced Development Alternative* for more information on this alternative. Impacts to cultural resources as a result of implementation of the Reduced Development Alternative would be similar to those discussed under the No Action Alternative and the Proposed Action Alternative.

Overall, under the Reduced Development Alternative, impacts CUL-1, CUL-2, and CUL-3 would not be appreciably different from what is described for the Proposed Action Alternative. Effects would be slightly

less than under both the No Action Alternative and the Proposed Action Alternative if the two areas were not developed during the permit term.

NEPA Level of Significance: As compared to the No Action Alternative, this impact is **less-than-significant**.

CEQA Level of Significance: As compared to the Proposed Action Alternative, this impact is similar and is **less than significant**.

No mitigation is required.

Cumulative Effects

The existing cumulative condition in the Plan Area resulting from past, present, and reasonably foreseeable future projects is described above for the No Action Alternative and remains the same for the Reduced Development Alternative. The individual effects on cultural resources under the Reduced Development Alternative are not substantially different from those described for the Proposed Action Alternative or the No Action Alternative, and there would be the same regulatory and policy requirements to identify, avoid, and mitigate for resources. Because of the regulatory requirements to avoid and mitigate for impacts, implementation of the Reduced Development Alternative would not result in a considerable adverse contribution to the combined effects of past, current, and probable future projects on paleontological and cultural resources. The Reduced Development Alternative would make roughly an equivalent contribution to cumulative impacts compared to the No Action Alternative.

NEPA Level of Significance: As compared to the No Action Alternative, this impact is **less-than-significant**.

CEQA Level of Significance: As compared to the Proposed Action Alternative, this impact is similar and is **less than significant**.