

## 4.5 CULTURAL RESOURCES

The purpose of this section is to determine potential cultural resource impacts associated with implementation of the proposed project. This section is based on the existing archaeological record and background research conducted by EDAAW to determine the significance of the project area as a cultural landscape. Resources used in this analysis are cited throughout this section and corresponding references are included in Chapter 11, “References and Personal Communications.” Preparation of this analysis included review of the cultural resources section of the CALFED Final PEIS/EIR.

### 4.5.1 ENVIRONMENTAL SETTING

It is difficult to appreciate the character of human habitation in the Sacramento River Valley without first considering the dynamic nature of the river itself. Patterns of prehistoric and historic-era land use within and in the vicinity of the Chico Landing Subreach are in large part the result of the geomorphology and/or the biotic resources found in the region’s varied geographic setting. Three of the four geomorphic units of the Sacramento Valley (i.e., floodplains and natural levees, flood basins, and low alluvial plains and fans) are located within the study area; only low hills and dissected uplands are not included. These features are described in Bryan (1923), Hinds (1952), Olmsted and Davis (1961), and Poland and Evenson (1966). Prior to the reclamation projects of the early and middle decades of the 20th century, several of the perennial and intermittent streams (e.g., Butte and Big Chico Creeks) were prevented from flowing directly into the Sacramento River by natural levees that bordered the river and larger streams. These water courses drained to the valley floor through a myriad of “distributaries,” eventually flowing into tule marshlands bordering the main river or in the flood basins (Thompson 1961; Warner and Hendrix 1985, cited in Bayhem and Johnson 1990). These marshes, a nuisance to historic-era farmers, provided a rich set of botanical and faunal resources exploited by Native American populations for centuries.

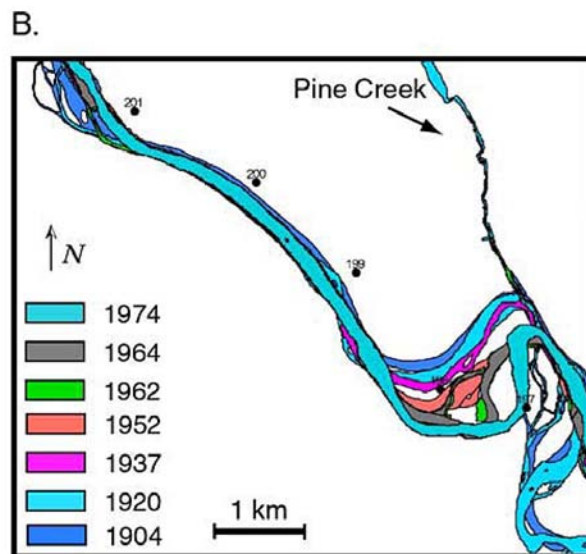
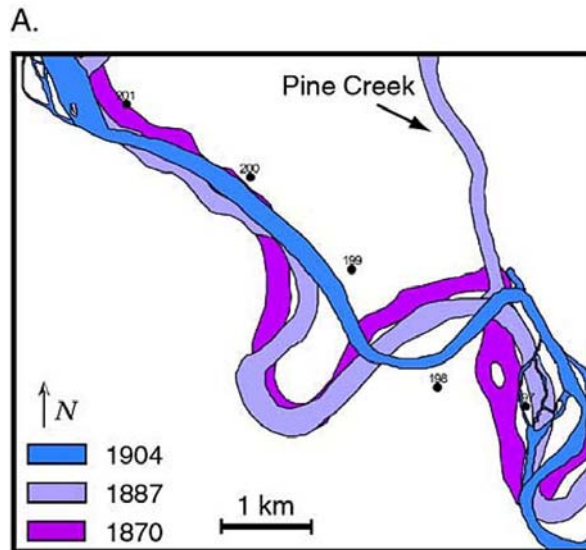
Historical aerial photographs coupled with sediment analysis of the Sacramento River floodplain provide evidence of a dynamic system that is constantly changing. For example, the area west of Pine Creek, and the west side of the Sacramento River opposite Mud and Big Chico Creeks in Bidwell-Sacramento State Park has seen numerous changes in the river channels over the last 120 years (Exhibits 4.5-1–4.5-3). Although the unpredictable nature of the river channels may have made the riparian corridor of the Sacramento River unsuited to long-term and more sedentary occupation in prehistoric times, it was just this kind of variability that provided an unusually resource-rich environment that was an important attraction to both Native and European Americans for centuries.

### REGIONAL CONTEXT

#### Prehistoric Archaeological Context

The prehistoric cultural sequence of the project area and the surrounding region was developed in large part through research driven by the construction of the Oroville Dam in the 1960s (Olsen and Riddell 1963). This early work was further expanded by Ritter (1970), and updated later by Kowta (1988). Other researchers (Bayhem and Johnson 1990, Deal 1987, White 2003) have further refined the cultural sequences of the region and have provided detailed overviews of the early Native American cultural patterns prevalent within and in the vicinity of the project area.

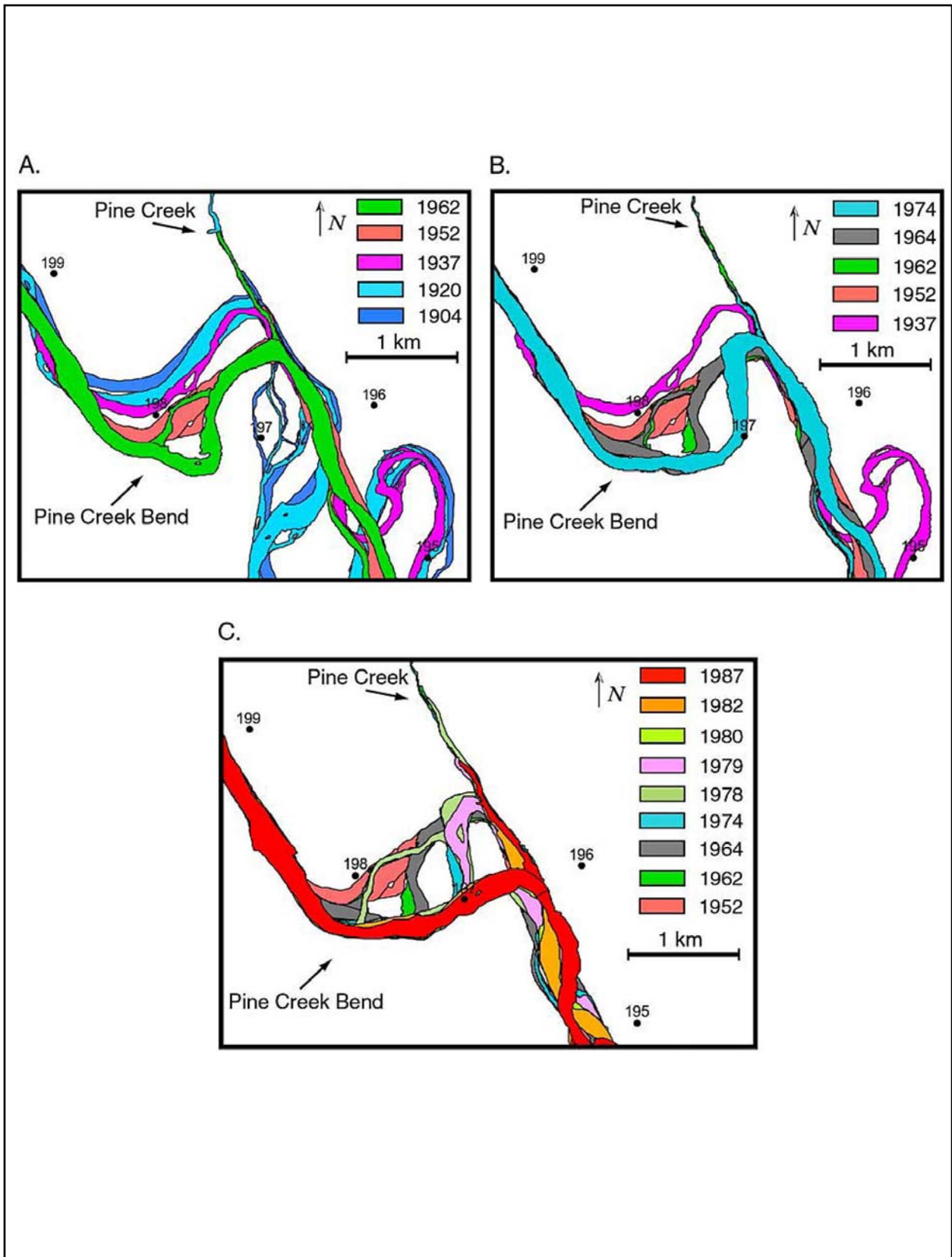
Although human occupation has occurred in the region for at least 10,000 years (Fredrickson and White 1988, Moratto 1984, White 2003) and possibly as far back as 16,000 years (White 2002), little is known of these early peoples, and the most extensive evidence for land use by Native American populations doesn’t occur until about 3000 years before present (BP). The Sacramento Valley was a region subject to cultural influences from the Cascade, Coast Range, and Sierra Nevada foothills and, to date, no comprehensive synthesis of Sacramento Valley cultural patterns has been attempted. However, in general, the cultural patterns prevalent in the project area appear to be associated largely with the Sierra Nevada foothills as noted by the work of Olsen and Riddell (1963 at Oroville Dam; this research team, and later Ritter [1970], defined four occupational complexes most relevant to the project area [White 2003]).



Source: Adapted from Larsen et al. 2002

## Historic Change in the Sacramento River Channel Pine Creek

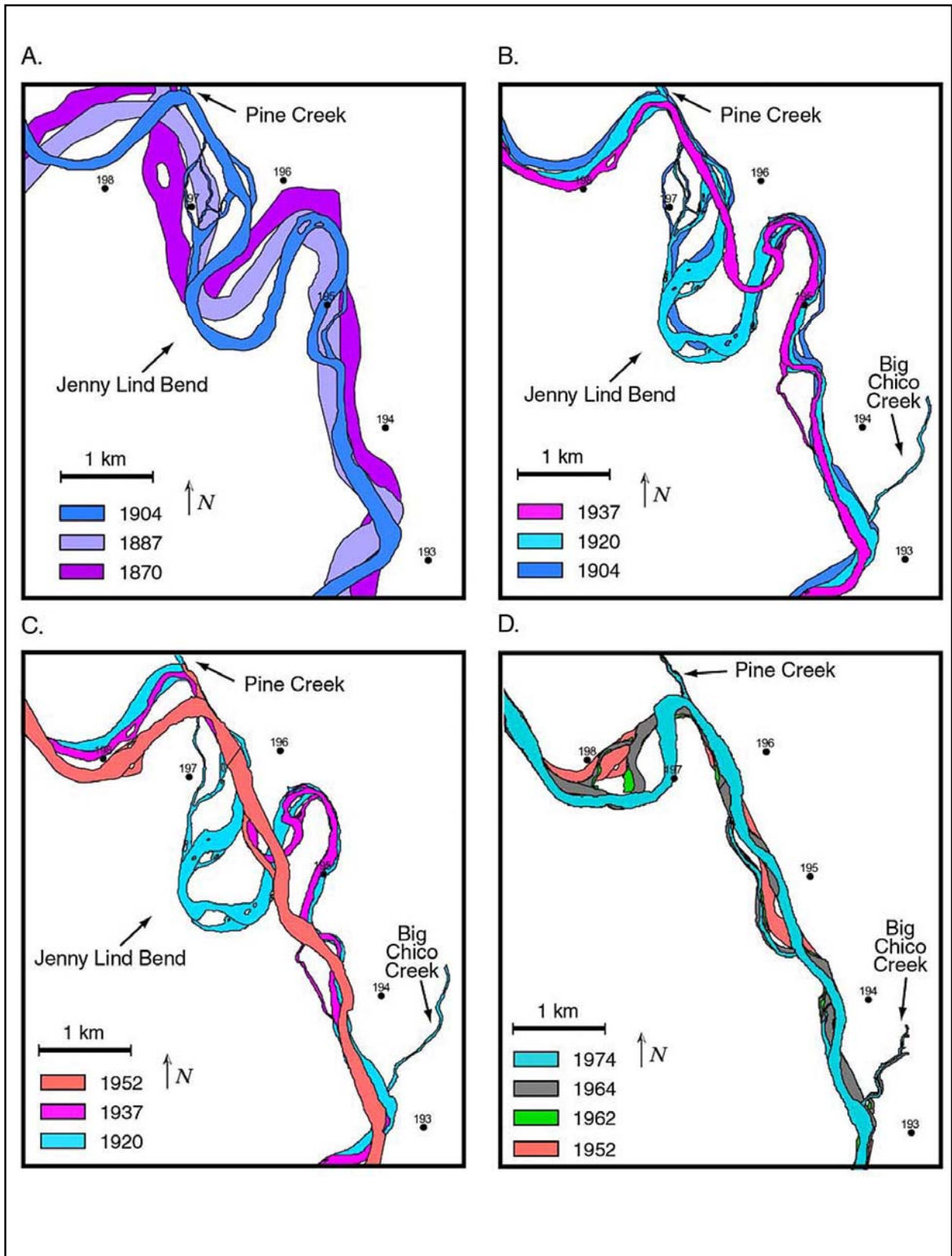
EXHIBIT 4.5-1



Source: Adapted from Larsen et al. 2002

## Historic Change in the Sacramento River Channel Pine Creek Bend

EXHIBIT 4.5-2



Source: Adapted from Larsen et al. 2002

## Historic Change in the Sacramento River Channel Big Chico Creek

EXHIBIT 4.5-3

- ▶ *Mesilla Complex*. This manifestation dates from about 3000 BP to 2000 BP and constitutes the earliest and best-documented occupation of the region. Prominent technological components of this complex included the mano and metate, and mortars and stone pestles for processing plant materials. The bow-and-arrow had not made its appearance yet and the spear thrower (atl-atl) was used in conjunction with large stemmed and side-notched projectile points. Large *Olivella* shell beads and *Haliotis* (abalone) pendants are found that date from this time, particularly with flexed human burials. Archaeological evidence indicates Mesilla peoples were highly mobile with subsistence patterns focused on the gathering and processing of various seeds.
- ▶ *Bidwell Complex*. Archaeological traces indicate that this cultural expression extended from about 2000 BP to 1200 BP, and that the people had adopted a somewhat more sedentary lifestyle compared to their earlier Mesilla counterparts. During this time the mano and metate was utilized more often than the mortar and pestle, and soapstone vessels are commonly found on archaeological sites. The presence of grooved and notched net sinkers suggests a reliance on fish as a food source and hard-shelled seeds may have been preferred over acorns. The atl-atl was still in use and large corner-notched or stemmed points made of basalt are typical of this period.
- ▶ *Sweetwater Complex*. This later complex (circa 1200 BP to 500 BP) exhibits an increasingly varied material culture and includes a wide range of *Olivella* beads and *Haliotis* ornaments, bone beads, pins, awls, gorge hooks, and spatulate tools. Mortars and pestles and manos and metates were all used to process various seeds and nuts and soapstone pipes and vessels have been recovered from sites of this period. Leaf-shaped knives and points with side notches and Gunther barbed points are characteristic of the Sweetwater Complex and burials were either loosely flexed or completely extended.
- ▶ *Oroville Complex*. Extending from roughly 500 BP until the time of consistent European contact, this complex is characterized by an even wider variety of material culture than seen in the preceding Sweetwater period. Small cylindrical bone beads, gorge hooks, gaming tubes, and clam shell disc beads are commonly seen along with a wide range of *Olivella* beads and *Haliotis* ornaments. The bow-and-arrow replaced the atl-atl by this time and Desert side-notched, and small corner-notched and triangular points were utilized. Unlike in the earlier Sweetwater Complex, human burials were typically flexed and placed on their sides.

## Ethnography

Although European groups had made periodic forays into lands inhabited solely by Native American populations during the latter years of the 18th century, relevant ethnographic observations didn't take place in the project area until the early decades of the 19th century. The earliest documented Spanish incursion into the study area and surrounding region probably occurred with the 1821 Arguello-Ordaz expedition. Although primarily meant to confirm rumors of English or American intrusion into territory seen as under Spanish control, the party began its travels in San Francisco and followed the Sacramento River north, encountering Konkow villages such as *Baht-che*, *Batsi'* and Patwin sites such as *Chan-no* near the confluence of the Sacramento River and Big Chico Creek (Heizer and Hester 1970, Kroeber 1932, White 2003).

Prior to large-scale European incursions into the Sacramento Valley and cataclysmic yellow fever and smallpox epidemics in the early 1830s, the project area and its vicinity was one of the most densely populated Native American centers in California (Goldschmidt 1971, White 2003). At the time of their contact with non-Native peoples, the residents of the study area spoke at least two different languages and were associated with the Konkow and River Patwin tribes. These groups shared many material, social, and spiritual traits and apparently held common claim to some lands along the Sacramento River.

The Konkow (also referred to as the Valley or Northwestern Maidu) occupied a territory that encompassed the northern portions of the study area and their population may have been as high as approximately 20,000 in the area north of the Sutter Buttes prior to the epidemics of the 1830s (Cook 1964, McKinstry 1872, White 2003). Konkow people lived in a village community structure with each community consisting of several adjacent small settlements with one larger center possessing the dance house and the residence of the chief or headman whose position was either hereditary or determined in part through the recommendations of a shaman. However, individual villages were

largely self-sufficient entities and not necessarily politically bound to the chiefs who served primarily in an advisory capacity (Riddell 1978). Each extended family with the villages had their own leaders who would assist the chief who lived within the ceremonial earth-covered lodge or dance house. Other than his social status and taking up residence in the dance house, chiefs were not necessarily afforded any other special privileges.

The River Patwin occupied a territory that encompassed the southern portion of the study area down to and beyond the present-day town of Colusa. Although socially, politically and economically tied to their Konkow neighbors to the north, the Patwin possessed any number of distinctive cultural traits that set them apart from other nearby groups. Although estimates vary widely, it is reasonable to estimate that, based on early historic-era accounts of the Arguello-Ordaz expedition and others, at least 8,000 individuals of Patwin descent were living along the Sacramento River and its environs.

Patwin settlements were quite similar to those of the Konkow although Patwin structures were apparently quite distinctive in terms of design and construction. At least six structure types were utilized including various domiciles, menstrual huts, granaries, sweat lodges, and earth-covered dance houses much like those utilized by the Konkow and other regional tribes. These semi-subterranean dance houses were built only in central villages at their northern or southern edges and typically measured 40 to 50 feet long. As with neighboring tribes, the dance house served as the major ceremonial center for the central village and surrounding affiliated settlements (McKern 1923, White 2003).

Patwin social order shared many similarities with neighboring tribes although the tribelet (a socio-political entity organized around a central village and its associated smaller settlements) chief retained greater authority over activities than their counterparts in the Konkow tribe. The chief could determine and guide many aspects of tribelet life ranging from food gathering and distribution to inter-group exchange and domestic disputes (McKern 1922). Satellite villages typically operated under the broad authority of the central village and the tribelet chief who also oversaw the conduct of ceremonies related to the Kuksu society and other political and social activities.

In general, the Konkow and Patwin retained their tribal social, political, economic and spiritual foundations well into the 19th century. Although their populations and traditional lifeways were virtually wiped out by disease and intense pressures from the European and later American governments, small groups did manage to hang on in more isolated regions and preserve their unique cultural identities. Today, the Patwin and Konkow (Maidu) groups constitute thriving and active Native peoples, re-establishing themselves as vibrant political and social entities within the broad context of California's Native American population.

## **Historical Context**

Although European influences began to be felt in the project area and its vicinity at least as early as the opening decades of the 19th century, considerable historic-era impacts to the cultural landscape did not occur until the 1840s with the establishment of Mexican land grants in the region. Hood and McGuire (1981) and White (2003) provide an excellent overview of history pertinent to the project area and have established the main themes of historical development in this portion of the Sacramento River Valley. The most prominent of these themes, aside from the ranching and agricultural interests that have been the mainstay of the regional economy for much of the past 160 years, include early exploration and settlement, and transportation.

### ***Exploration and Settlement***

European explorers and trappers first visited the general study area beginning in the early 1800s. In 1808 Gabriel Moraga, who was involved in over 40 northern California expeditions for the Spanish church and government, traveled north along the Sacramento River possibly as far north as the current location of Butte City (Beck and Haase 1974). In 1821 the Mexican governor Pablo Vicente de Sola sent Captain Luis Arguello to drive out reported English or American intruders from the region north of San Francisco Bay. Arguello was accompanied by a sizeable contingent of soldiers, Father Blas Ordaz, and an interpreter by the name of John Gilroy. The Arguello-Ordaz expedition followed the Sacramento River up to Cottonwood Creek, further followed this course to its source, and then also explored portions of the Trinity, Eel, and Russian Rivers (Beck and Haase 1974).

While Hudson Bay Company trappers may have visited the study area and its vicinity in the 1820s through the 1840s (Mansfield 1918), the Charles Wilkes expedition (led by Lieutenant George Emmons) led a group into California from the Columbian River, passing south along the west bank of the Sacramento River in October 1841. Lansford W. Hastings and Joseph B. Chiles led an emigrant party into California, passing by the present-day Bidwell-Sacramento River State Park in 1843. Regardless of their origins and their leaders, these expeditions and emigrant travels into the Sacramento River valley, along with the numerous previously authorized Mexican land grants, set the stage for large-scale Euro-American settlement of the region.

In 1844 a number of Mexican land grants were issued within and near the project area. Those with the most impact on the social and economic fabric of the region included the 22,194-acre *Rancho de Farwell*, granted to Edward A. Farwell and located at about the location of Dead Man's Reach. The 22,214-acre *Rancho Arroyo Chico*, located in part on the eastern bank of the Sacramento River near the Capay Unit, was awarded by Mexican colonial governor to William Dickey in the fall of 1844 and then subsequently purchased by John Bidwell. Bidwell, who had operated some mining ventures for William Dickey, purchased Rancho Arroyo Chico in 1849, and by 1852 he had 200 to 300 acres under cultivation. Another important local holding was the *Rancho Capay* (within which the current Capay project site is entirely located), granted to Josefa Sotao in 1844. These and other holdings up and down the Sacramento River set the stage for increased commercial developments in the region throughout the 1800s and well into the 20th century.

### **Transportation**

While various ferries and river crossings facilitated local commerce and transportation, bringing the vast agricultural output of the region to market relied chiefly on river-borne, and eventually railroad transit. During the late 19th century, river navigation contributed to the viability of the vast land grant holdings. It was during this time that Chico Landing (situated near the confluence of Big Chico Creek and the Sacramento River) became a substantial link in the shipment of agricultural products from ranches such as Bidwell's and Farwell's and the livestock ranch of Richard J. Walsh, which included a portion of the current Bidwell-Sacramento River State Park. As competition to serve these and other large ranch and farm enterprises increased, the principal steamboat owners formed the California Steam Navigation Company in 1854, which basically controlled navigation on the river north of Sacramento.

With completion of the California and Oregon Railroad to Chico in July 1870, a faster and more efficient means of bringing produce and cattle to market came with it. Although railroads were being built in the Central Valley during the 1850s and 1860s, rail lines were not built into the area until the early 1870s. The California and Oregon Railroad (a subsidiary of the Central Pacific) finally extended its lines from Marysville to Chico in the summer of 1870 (White 2003). As the area became more connected by rail to Sacramento, commercial river traffic soon decreased. One of the more notable lines in the area was the Northern Electric Rail, which connected Chico directly with Sacramento. This line ceased to exist as a separate company in 1921 when it was absorbed by the Southern Pacific Railroad, which still operates in the area today as the Union Pacific Railroad.

### **Field Investigations**

The low number of cultural resource inventories conducted in the study area has limited the success of identifying archaeological resources associated with the prehistoric and early historic eras. However, archival research suggests a long record of intensive Native American utilization of the region and also indicates a rich historical relationship between early agriculture and development within the region.

Inventories conducted thus far have primarily been limited to those associated with transportation, reclamation, and recreation projects. One of the most widely covered areas in the vicinity of the study area has been Bidwell-Sacramento River State Park located on the west side of the Sacramento River, directly across from the current project area. While a large portion of the study area has not been inventoried, studies have been conducted within approximately 50% of the Bidwell-Sacramento River State Park, as currently defined.

Cultural resources studies conducted in and near the Bidwell-Sacramento River State Park provide an excellent overview of the general levels of prehistoric and historic site sensitivity for the area and are highly relevant to the analysis of the project study area. For the purposes of this investigation, however, the most significant study is by White (2003), which provides the cultural context of the Pine Creek, Capay, and Dead Man’s Reach Units and outlines the nature, extent, and results of archaeological inventories carried out on these specific properties. Table 4.5-1 lists previous cultural resource investigations in and near the study area.

<b>Table 4.5-1 Previous Cultural Resource Investigations in and near the Study Area</b>		
<b>Report</b>	<b>Author/Date</b>	<b>Northeast Information Center Number<sup>1</sup></b>
<b>Project Vicinity</b>		
Archaeological Reconnaissance of 26 Erosion Sites along the Sacramento River, Chico Landing to Red Bluff; Butte, Glenn, and Tehama Counties, California	Johnson (1975)	B-150
Archaeological Evaluation of a Proposed Bridge Replacement and Approach Realignment on SR 32; Glenn and Butte Counties, California	Caltrans (1978)	B-168
Chico River Road Project	Henrici (1978)	B-181
Archaeological Reconnaissance of the Bidwell-Sacramento River Park	Hetherington (1980)	--
Bidwell-Sacramento River Park Project (Chico Landing)	Hood and McGuire (1981)	--
No Title	Manning (1983)	B-L-574
Cultural Resources Survey for the U.S. Sprint Fiber Optic Cable Project; Oroville, California to Eugene, Oregon	Minor and Underwood (1987)	827
Cultural Resources Inventory Report for the M&T Ranch/Parrott Pumping Plant and Fish Screen Project; Butte County, California	Jones & Stokes Associates (1996)	B-L-633
<b>Project Area</b>		
Cultural Resource Overview and Management Plan	White (2003)	--
Source: California Department of Parks and Recreation 2003		
<sup>1</sup> The Northeast Information Center is a part of the California Historical Resources Information System, which serves as a statewide clearinghouse for archaeological and historical documentation. The Northeast Information Center is located in Chico, CA. The numbers in this column are report number references.		

### ***Pine Creek Project Site***

The Pine Creek project site (21 acres) was inventoried as a part of a larger survey conducted by California State University, Chico (CSUC) in December 2002. Good ground visibility and the utilization of intensive survey methods (pedestrian transects spaced no more than 15 meters apart). No prehistoric or historic cultural resources were encountered at the project site.

### ***Capay Project Site***

The 576-acre Capay project site was surveyed by CSUC in October 2002 utilizing pedestrian transects spaced approximately 15 meters apart in areas with variable ground visibility. This survey resulted in the documentation of three isolated historic-era resources and a single isolated prehistoric artifact. The historic resources consisted of a fragment of probable 19th century bottle glass and a poured concrete building pad dating to the 20th century. The



prehistoric artifact consisted of a metasedimentary cobble tool not found in association with any other artifacts or features suggestive of a larger deposit of materials in the immediate area. None of the finds are considered to be either historical resources or unique archaeological resources pursuant to CEQA definitions.

### ***Dead Man's Reach Project Site***

The 239-acre Dead Man's Reach project site was surveyed by CSUC within the context of a larger 669-acre parcel in November 2002. Intensive survey methods employing 15-meter pedestrian transects were utilized and ground visibility was recorded as having been good. No cultural resources were documented as a result of this survey.

## **4.5.2 REGULATORY SETTING**

Cultural resources in the state are protected by a number of federal, state and local regulations, statutes and ordinances. Management of cultural resources within the state is guided in large part by the provisions of CEQA and Section 106 of the National Historic Preservation Act (NHPA) of 1966.

The NHPA includes and provides for:

- ▶ The Advisory Council on Historic Preservation (ACHP), authorized by the Secretary of the Interior to maintain the National Register of Historic Places (NRHP).
- ▶ Approval by the Secretary of the Interior for state historic preservation programs that provided for a State Historic Preservation Officer (SHPO).
- ▶ A National Historic Preservation Fund program.

Section 106 of the NHPA requires federal agencies to take into account the effects of their actions on properties that may be eligible for listing on the NRHP. It also provides an opportunity for the ACHP to comment. To determine if an undertaking could affect NRHP-eligible properties, all cultural sites that could be impacted must be inventoried and evaluated for inclusion in the NRHP. Although compliance with Section 106 is the responsibility of the lead *federal* agency, the work necessary to comply can be undertaken by others. In this case CBDA would be responsible for ensuring compliance with Section 106.

CEQA, as opposed to the NHPA, is a much more broad and far-reaching environmental regulatory framework but also includes cultural resources as an important component of its oversight and management policies. Prior to the approval of discretionary projects, the potential significant impacts of the project on archaeological and historical resources must be considered under CEQA (Public Resources Code Sections 21083.2 and 21084.1) and the State CEQA Guidelines (California Code of Regulations Title 14, Section 15064.5).

The significance of an archaeological or historic resource as per the NHPA and State CEQA Guidelines is an important consideration for management of these resources. Listing, or eligibility for listing, on the NRHP and/or the California Register of Historic Resources (CRHR) is the primary consideration in whether or not a resource is subjected to further research and documentation. As a matter of policy, public agencies should avoid damaging effects to historic and archaeological resources, particularly those that are eligible for either the NRHP or the CRHR. When impacts cannot be avoided, their effects can be mitigated through:

- ▶ Avoidance during construction phases.
- ▶ Incorporation of sites into open space.
- ▶ Capping resources with chemically stable fill.
- ▶ Deeding a site into a permanent conservation easement.

- ▶ Data recovery (testing and excavation).

In addition, State CEQA Guidelines Section 15064.5 requires consideration of unique archaeological sites. If an archaeological site does not meet the criteria for inclusion on the CRHR but does meet the definition of a *unique archeological resource* as outlined in Public Resources Code Section 21083.2, it may be treated as a significant historical resource. Section 21083.2 of CEQA allows for preservation of resources in place and in an undisturbed state. Other acceptable methods of mitigation under Section 21083.2 include excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a unique archaeological resource).

Public Resources Code Section 15064.5(e) of the State CEQA Guidelines requires that excavation activities stop whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission must be contacted within 24 hours. At that time, Section 15064.5(d) of the State CEQA Guidelines directs the lead agency to consult with a Most Likely Descendent (MLD) as identified by the Native American Heritage Commission and directs the lead agency (or applicant) to develop an agreement with the Native Americans for the treatment and disposition of the remains. These procedures are also adhered for projects that must comply with the requirements of Section 106 where coordination with Native American representatives is an important element in the required consultation process.

Native American human remains are also afforded protection under federal law by the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001 et seq.) (NAGPRA). NAGPRA requires federal agencies and certain recipients of federal funds to document Native American human remains and cultural items within their collections, notify Native American groups of their holdings, and provide an opportunity for repatriation of these materials. NAGPRA also requires planning for dealing with potential future collections of Native American human remains and associated funerary objects, sacred objects, and objects of cultural patrimony. Such potential future collections can include remains and items encountered during the course of federally funded or supported construction projects.

### **4.5.3 ENVIRONMENTAL IMPACTS**

#### **SIGNIFICANCE CRITERIA**

##### **Criteria for the California Register of Historic Resources**

As noted above, the significance of cultural resources within the project area is measured against the criteria outlined in the CRHR. The CRHR requires that cultural resources eligible for listing be afforded degrees of protection ranging from preservation to the mitigation of adverse impacts. Determining the CRHR eligibility of historic and prehistoric sites located within the study area is guided by the specific legal context of the site's significance as outlined in Sections 21083.2 and 21084.1 of the PRC, and Section 15064.5 of the State CEQA Guidelines. In the CRHR cultural resources are defined as buildings, sites, structures or objects that may have historical, architectural, archaeological, cultural, or scientific importance. A cultural resource may be eligible for listing on the CRHR if it:

- ▶ is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- ▶ is associated with the lives of persons important in our past;
- ▶ embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of an important creative individual or possesses high artistic values; or
- ▶ has yielded, or may be likely to yield, information important in prehistory or history.

## Criteria for the National Register of Historic Places

Determining the NRHP eligibility of cultural resources is guided by the specific legal context of the site's significance as set out in Section 106 of the NHPA (16 USC 470), as amended. The NHPA authorizes the Secretary of the Interior to expand and maintain a National Register of districts, sites, buildings, structures and objects of significance in American history, architecture, archaeology, engineering and culture. A property may be listed in the NRHP if it meets criteria for evaluation defined in 36 CFR 60.4.

The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association and:

- ▶ That are associated with events that have made a significant contribution to the broad patterns of our history;
- ▶ That are associated with the lives of persons significant in our past;
- ▶ That embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess a artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- ▶ That have yielded, or may be likely to yield, information important in prehistory or history.

Most prehistoric archaeological sites are evaluated with regard to *Criterion d* of the NRHP, which refers to site data potential. Such sites typically lack historical documentation that might otherwise adequately describe their important characteristics. Archaeological methods and techniques are applied to gain an understanding of the types of information that may be recovered from the deposits. Data sought are those recognized to be applicable to scientific research questions or to other cultural values. For example, shellfish remains from an archaeological deposit can provide information about the nature of prehistoric peoples' diet, foraging range, exploited environments, environmental conditions, and seasons during which various shellfish species were taken. These are data of importance to scientific research that can lead to the reconstruction of prehistoric life-ways. Some archaeological sites may be of traditional or spiritual significance to contemporary Native Americans or other groups, particularly those sites which are known to contain human burials.

Site integrity is also a consideration for the NRHP eligibility of an archaeological locale. The aspects of prehistoric resources for which integrity is generally assessed include location, setting design, workmanship, feeling, and association. These may be compromised to some extent by cultural and post-depositional factors (e.g., highway construction, erosion, or bioturbation), yet the resource may still retain its integrity for satisfying Criterion d if the important information residing in the site survives. Conversely, archaeological materials such as shell may not be present in sufficient quantity or may not have adequate preservation for accurate identification. Thus, their potential as data to address important research questions is significantly reduced. Assessment of these qualities is particularly important for archaeological properties where the spatial relationships of artifacts and features are necessary to determine the patterns of past human behavior.

## Thresholds of Significance

The proposed habitat restoration project would be considered to have a significant effect on cultural/archaeological resources if it would:

- ▶ Cause a substantial adverse change in the significance of an historical resource, as defined by State CEQA Guidelines Section 15064.5(a);
- ▶ Cause damage to or destroy a unique archaeological resource, as defined by State CEQA Guidelines Section 21083.2(g);

- ▶ Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;
- ▶ Disturb any human remains, including those interred outside of formal cemeteries (PRC Section 5097.98).

An historical resource may include archaeological sites. Substantial adverse change means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resources is materially impaired. Material impairment occurs when a project demolishes or materially alters in an adverse manner those physical characteristics that convey a resource’s historical significance.

If an archaeological resource is neither a unique archaeological resource nor an historical resource, the effects on that resource shall not be considered a significant effect on the environment.

In order to be considered a fossil, a paleontological specimen must be more than 10,000 years old. Generally, rock formations within 8 to 10 feet of the soil surface are composed of deposits that are less than 10,000 years old. Since project activities would take place only within the top 6 to 8 inches of the soil surface (see Chapter 3, “Description of the Proposed Project”), potential impacts to paleontological resources are not further addressed in this Draft EIR.

## IMPACT ANALYSIS

**IMPACT 4.5-a** **Potential Disturbances to Undocumented Cultural Resources.** *Implementation of the project would be accomplished through the use of standard agricultural practices already being used throughout the study area. Activities involving site preparation and planting may affect currently undiscovered or unrecorded archaeological sites. The possibility of disturbing unrecorded resources is considered a **potentially significant** impact.*

Documentary and field investigations have identified a number of prehistoric and historic-era cultural resources within the study area. The cultural resources sensitivity of the area appears to be low to moderate. Previous studies have all been based on visual pedestrian inventories and such surface surveys do not necessarily provide information on archaeological materials that might be present in subsurface contexts. Activities related to implementation of the proposed project would include orchard removal, disking, seeding, and planting. Irrigation system modification and expansion would include standard trench and backfill techniques. The possibility exists that unrecorded resources or those presently in subsurface contexts could be encountered during these project-related ground disturbing activities. The potential for discovery of such resources to occur as a result of proposed project activities is considered a potentially significant impact.

**IMPACT 4.5-b** **Potential Disturbances to Undocumented Human Remains.** *Currently undiscovered human remains may be uncovered during proposed project activities. The possibility of disturbing human remains is considered a **potentially significant** impact.*

Activities related to implementation of the proposed project would include orchard removal, disking, seeding, and planting, and these are standard agricultural practices already in use throughout the study area. Irrigation system modification and expansion would include standard trench and backfill techniques. The possibility exists that human remains could be encountered during these project-related ground disturbing activities. The potential for buried human remains to be disturbed as a result of proposed project activities is considered a potentially significant impact.

### 4.5.4 MITIGATION MEASURES

**Mitigation Measure 4.5-a: If unrecorded cultural resources are encountered during project-related ground-disturbing activities, a qualified cultural resources specialist shall be contacted to assess the potential significance of the find.**

If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, bottle glass, ceramics, structure/building remains, etc.) is made during project-related construction activities, ground disturbances in the area of the find will be halted within a 100-foot radius of the find, and TNC staff shall be notified of the discovery. At that time, TNC shall retain a professional archaeologist. The archaeologist shall determine whether the resource is potentially significant in accordance with CRHR criteria and develop appropriate mitigation. Appropriate mitigation may include no action, avoidance of the resource, and potential data recovery.

Implementation of Mitigation Measure 4.5-a would reduce potentially significant impacts resulting from inadvertent damage or destruction of unknown cultural resources during construction to a less-than-significant level.

**Mitigation Measure 4.5-b: Stop potentially damaging work if human remains are uncovered during project-related ground-disturbing activities, assess the significance of the find, and pursue appropriate management.**

State law recognizes the need to protect human interments and Native American burials in particular from vandalism and inadvertent destruction. This includes skeletal remains, and items associated with Native American interments. The procedures for the treatment of human remains are contained in California Health and Safety Code Sections 7050.5 and 7052, and California Public Resources Code Section 5097.

In accordance with the California Health and Safety Code, if human remains are uncovered during ground disturbances, TNC and its contractors shall immediately halt potentially damaging excavation in the area of the burial and notify the respective County Coroner and a professional archaeologist. The California Health and Safety Code requires that if human remains are found in any location other than a dedicated cemetery, excavation is to be halted in the immediate area, and the county coroner is to be notified to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission by telephone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). Following the coroner's findings, the archaeologist, the Native American Heritage Commission designated Most Likely Descendent (MLD), and the archaeologist shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities of TNC for acting upon notification of a discovery of Native American human remains are identified in California Public Resources Code Section 5097.9.

Implementation of the Mitigation Measure 4.5-b is required, and assuming a course of action agreeable to TNC and the MLD is reached, impacts to the remains will be reduced to a less-than-significant level.

#### **4.5.5 IMPACTS REMAINING SIGNIFICANT AFTER MITIGATION**

With implementation of Mitigation Measures 4.5-a and 4.5-b, all impacts on cultural resources would be reduced to less than significant.

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