4.11 CULTURAL RESOURCES

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INTRODUCTION

This section examines potential impacts to cultural resources from implementation of the CCRMP (and CCIP) or project alternatives. The main issues addressed in this section include:

- Disturbance of cultural resources; and
- Treatment of cultural resources.

In general, cultural resources fall within the three broad categories of paleontological, archaeological, and historical resources. Paleontological resources consist of fossilized biological materials. Archaeological resources are defined herein as locations where prehistoric or historic occupation or activity is evident through material remains. Historic resources are considered extant buildings, structures, and landscape features.

Research found that the lower Cache Creek basin contains geologic formations consistent with fossil-bearing deposits, and that paleontological specimens are likely to occur within the planning area. Moreover, the ample and diverse natural resources of the lower Cache Creek basin have made it the focus of human use over an extended period of time, beginning as early as 5,000 years ago and continuing into the present. There are documented prehistoric and historic cultural resources within the planning area. The following cultural resources summary was prepared using published and unpublished literature, maps, existing cultural resources studies (including those for specific mining projects), and the Technical Studies for the Cache Creek Resources Management Plan (EIP et al. 1995).

SETTING

The following summary of cultural resources setting information is based on both archival research and field study. Archival research included a review of various primary and secondary materials on file at the Northwest Information Center (NWIC), Sonoma State University and the library of Tom Origer & Associates. The NWIC is under contract with the State Office of Historic Preservation to maintain files concerning most types of cultural resources (i.e., archaeological sites and historical structures and buildings). The library and files of Tom Origer & Associates contributed documents concerning the area's prehistoric inhabitants (i.e., ethnographic and archaeological studies) and historical landscape (e.g., USGS and USACE topographic quadrangles, and GLO plat maps). Additional information was obtained from other libraries and from individuals with knowledge of the area. Archival research provided information regarding the extent of previous research in the area, the presence or absence of recorded or otherwise

documented cultural resources, and the potential for additional cultural resources within the planning area.

Field study included a vehicular survey of the area to gain an overall impression of the cultural landscape, and pedestrian field checks of resource locations coinciding with the locations of five proposed gravel mining applications recently submitted by Cache Creek Aggregates, Solano Concrete Company, Syar Industries, Inc., and Teichert Aggregate (outside the CCRMP planning area). A separate paleontological field inspection was conducted at six localities within the planning area.

Research revealed that cultural resources studies have been conducted for portions of the planning area. Previous studies include an archaeological survey of the Cache Creek channel, channel banks, and a 30-meter buffer on either bank of Cache Creek between Capay and Yolo (ACRS 1978), two linear studies which cross the planning area (cf., Arnold 1964, Treganza et al. 1965), and a portion of a survey extending into the planning area south of Cache Creek near Monument Hill (Bethard 1984).

All previous work was reviewed to determine whether it meets current cultural resources management standards. Review focused on the sufficiency of archival research, survey methods, resource documentation, and recommendations. Many of the earlier (pre-1990) studies were found to be deficient in light of recent changes in CEQA, and are not adequate for future mining projects. At the time they were prepared, paleontological and historical resources (especially the built environment) were not addressed during cultural resources study. Within the planning area, approximately 640 acres west of County Road 85 near Capay, and 2140 acres within the flood plain southwest of Yolo have not been subjected to cultural resources study.

Research found that seven prehistoric archaeological sites have been documented within or in the vicinity of the planning area; three are within areas for which off-channel mining applications have been submitted. Nine historical resources have been recorded within the planning area. There is the potential for many more historical resources: forty-three mapped locations of buildings, building complexes, and structures predating 1946 were found within the planning area during archival study (see technical study prepared by Beard et al. 1996). None of the cultural resources documented within the planning area have been evaluated with respect to their importance/significance under CEQA and Section 106 of NHPA.

The present study also reveals that fossil localities are present in the gravels within the boundaries of the planning area. However, these localities are scarce and their position within the planning area is not predictable. No *in situ* paleontological sites are known to exist. The fossils that have been located in the gravels are disarticulated mammoth skeletons which are not in place. Rather, the skeletons, with one exception, have been eroded out of Pleistocene gravels and have been transported by Cache Creek to the site where they were found. Thus the fossils are usually poorly preserved.

Field inspections of all archaeological deposits within mining application areas were completed to insure the accuracy of their reported locations, and to assess their current conditions. In sum, three prehistoric archaeological sites (CA-YOL-69, -70, and -72) in the vicinity of the planning area were examined. Site conditions were found to be generally the same as those described in existing documentation. With regard to the built environment, field inspection found that many of the buildings and structures shown on historical maps are still standing and currently are in use. Paleontological field inspections were made at six localities, five within the Cache Creek and one at the southern end of the Dunnigan Hills. One possible fossil shell, was found within the planning area during the field investigation. It was discovered on the north bank of Cache Creek, north of Capay.

Paleontology

The planning area is located at the boundary between the Coast Ranges and the Central Valley geologic provinces and contains rocks associated with both regions. The rocks in the planning area range in age from Late Cretaceous to recent and vary in lithology from marine sandstones to non-marine sands and gravel. Rocks from the Forbes (Late Cretaceous), Tehama and Red Bluff (Pliocene), and Modesto-Riverbank (Quaternary) formations are present in the planning area. Each of these formations are reported as being fossiliferous. While nearly all of the stratigraphic units contain fossils in other areas, the record of paleontological finds in the planning area is generally sparse.

Recorded paleontological finds within the planning area are very limited and are mostly confined to the gravels mapped as Modesto-Riverbank Formations. Ramirez (1992) describes a concretionary zone (i.e., an area with mineral nodules within sedimentary rock) in the lower shale interval of the Late Cretaceous Forbes Formation which contains abundant megafossils such as mammoths. This unit crops out in the planning area at the south end of the Capay Hills along Cache Creek.

Several mammoth fossils have been collected from the unit mapped as the Modesto-Riverbank Formations (Farnham 1996, personal communication; Simons 1996, personal communication). One mammoth locality northeast of Madison was in the bed of Cache Creek but the fossils almost certainly were eroded out of the older gravels (Simons, 1996, personal communication). Mammoth tusks, four to five molars, and a skull were collected in 1982. In 1955, a large molar was collected about 3 miles downstream from the 1982 locality. More recently, according to Farnham (1996, personal communication) a mammoth skull was located in a gravel pit approximately 500 yards south of the 1982 occurrence. Farnham also reports the finding of another disarticulated mammoth from a red gravel in the southern Dunnigan Hills in 1937. The red color suggests that the fossil came from the Red Bluff Formation but this conclusion cannot be substantiated.

Previous Archaeology and Ethnographic Setting

Few archaeological excavations have been conducted in the vicinity of the planning area thus limiting understanding of the prehistoric cultural environment. However, occupation

of the Sacramento Valley is thought to have occurred as early as 5,000 years ago with sustained use occurring into the historical period (c. 1820). Archaeological survey teams have found evidence of prehistoric habitation at several locations along Cache Creek and in the hills west of the planning area. More sites are thought to be buried beneath alluvium as evidenced by the 1951 excavation of a burial found eroding from a creek bed near Capay. More than six feet of alluvium overlaid the burial. The locations of known archaeological sites show that, in general, prehistoric groups in the area chose elevated locations adjacent to creeks for their homes. These creekside settings would have afforded access to numerous plant and animal resources as well as fresh water.

The planning area is within the ethnographic territory of the Patwin, a Penutian-speaking people occupying the southern Sacramento Valley at the time of Euro-american contact. Ethnographers divide the Patwin into two geographically distinct groups with the Hill Patwin occupying the eastern foothills and intermontane valleys of the North Coast Ranges, and the River Patwin utilizing the Sacramento River and Valley. The dividing line between the two groups falls between Madison and Woodland. Early ethnographers documented several population centers along Cache Creek including three within the planning area. The village of *moso* was situated on the north bank of Cache Creek opposite the town of Capay, *kachituli* was described as being on the south bank about four miles southwest of the town of Yolo, and *hacha* was reported to be "three miles below Capay." Locations described for these sites clearly are not precise.

Descriptions of Patwin subsistence indicate that their diet was varied, taking advantage of the numerous plant and animal resources found in the area. Dietary staples of the Patwin included deer and elk, several species of freshwater fish, acorns, pine nuts, buckeyes, and many types of wild berries and seeds. Groups utilizing the area would have found ample resources in the diverse biota along Cache Creek. The material culture of the Patwin included flaked stone tools made of obsidian and chert (such as knives, arrow and spear tips, and scrapers), and ground stone implements for crushing and pounding. Bone and shell tools and decorative items were also common. Houses were semi-subterranean structures covered with earth. The Patwin are known to have used several types of plant fibers and animal skins in producing clothing and basketry.

Historical Land Use

Spanish exploration of the interior of California reached what is now Yolo County in 1821. At that time Luís Argüello headed an expedition in search of promising locations for new missions. In that decade, hunters and trappers regularly visited the area in search of game. Trappers storing furs and supplies for the Hudson Bay Company are thought to have given Cache Creek its name.

During the 1840s, the Mexican government approved petitions for five land grants in what is now Yolo County, three of them on Cache Creek. William Gordon's 8,894-acre *Guesesosi* grant was made in 1842 and included land on both sides of Cache Creek. Gordon had a ranch north of the Creek where he grew the first grain in the county, and

where travelers of all types were welcomed on their way through the area. The following year, Thomas Hardy was granted the 26,637-acre *Rancho Rio Jesus Maria*. Hardy's grant went without improvements until his death in 1848 when it was sold at auction. The *Rancho Cañada de Capay* was granted to Francisco, Demesio, and Santiago Berryessa in 1846 but ownership changed to Jasper O'Farrell the following year. O'Farrell wasted no time in subdividing the rancho for sale to incoming settlers. The communities of Madison, Esparto, and Capay are on lands included in the 40,079-acre *Cañada de Capay.*

Beginning with William Gordon's ranch on Cache Creek, agriculture was quickly established as the chief economic pursuit in the Cache Creek Valley, though access to water for irrigation was a concern. In 1856, William Gordon deeded land and water rights to James Moore for the purpose of building an irrigation canal. Moore's canal was the beginning of Yolo County's extensive dam and ditch system. Subsequent years saw water from Cache Creek irrigating vast tracts of Yolo County farm land, and the county's irrigation system receiving international notice.

The rural/agricultural character of the Cache Creek Valley has not changed significantly since William Gordon first settled in the area. Though farm acreage, population density, and the kinds of crops produced have changed, agriculture remains the economic base of the valley. Large tracks of land dotted by farm complexes dominate the cultural landscape. Many of the buildings and other landscape features (i.e., dams, canals, and railroad grades) within the planning area can be traced to the first decade of this century or earlier.

Anticipated Cultural Resources

Based on archival and field research conducted during this study, the following cultural resources are anticipated within the planning area.

Paleontological resources in the area could include both vertebrate and invertebrate fossils. Among the vertebrate fossils, Pleistocene megafossils (i.e. mammoth) are most common to the immediate area. Molluscan fauna are the most common invertebrate fossils in the area.

Archaeological resources anticipated include both prehistoric and historic-era archaeological sites. Prehistoric archaeological sites are expected to include both habitation and task-specific deposits. Historical archaeological sites expected are deposits of historical debris, building and structural foundations, and back-filled wells and privies.

Historical resources in the area are expected to include historical buildings (i.e., residences, farm and ranch complexes, and miscellaneous ancillary buildings), structures (i.e., silos, railroad grades, and roads), and landscape features (i.e., dams, canals, and fences).

Regulatory Context

The importance of preservation of cultural resources is addressed in the Historic Preservation Element of the Yolo County General Plan, which states as its goal:

> Yolo County shall support the preservation and enhancement of historic and prehistoric resources within the County when fiscally able.

The policy of preservation of cultural resources is supported by federal and state legislation. On the federal level the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. Section 4321 et seq.) and the National Historic Preservation Act of 1966 (NHPA; 16 U.S.C. Section 106) regulate the treatment of cultural resources. The California Environmental Quality Act (CEQA; Public Resources Code Sections 21083.2, 21084.1), and the State Historical Building Code, regulate the preservation of cultural resources at the state level. In addition, treatment of human remains is regulated by state Health and Safety codes (Ch. 1492 and Section 7052), and the state Penal Code (622.5) covers the destruction, defacing, or injury of any item or site of archaeological or historical interest. Paleontological resources are protected by California Public Resources Code 5097.5.

The National Register of Historic Places (NRHP; 36 CFR 60) sets forth criteria for evaluating cultural properties under NHPA. California Public Resources Code 5024.1 establishes criteria of eligibility for resources to be listed on the California Register of Historical Resources. These criteria, which are related to the criteria for eligibility on the NRHP, are used in evaluating the significance of cultural resources under CEQA (section 21084.1).

IMPACTS AND MITIGATION MEASURES

Standards of Significance

The proposed project would have significant effect on cultural resources if it would:

- disturb paleontological resources;
- disturb archaeological resources;
- disturb historical resources;
- disturb cultural resources that are: a) listed upon or eligible to be listed upon the National Register of Historic Places(NRHP); b) registered or eligible to be registered as a State Historic Landmark; or c) included in any responsible local inventory of historic properties;
- have the potential to cause physical change which would affect unique ethnic cultural values; or

- restrict existing religious or sacred uses within the potential impact area.

Impact 4.11-1
Potential Impacts to Cultural Resources

Draft CCRMP

The CCRMP would seek to stabilize the creek channel, establish a continuous corridor of vegetation along Cache Creek, recharge groundwater, and develop recreational areas along the creek. This process could significantly impact cultural resources where they occur within or adjacent to areas of land modification. Direct impacts to cultural resources would result from ground disturbing activities associated with bank stabilization; habitat restoration; construction, use and maintenance of access roads and recreation facilities; and demolition of buildings. Indirect impact would result from alteration of the settings of historic buildings, and from collection of fossils and artifacts by personnel, or by the public in the case of recreational use. These would be significant impacts requiring mitigation.

The draft CCRMP addresses cultural resources in Performance Standard 6.5-2 which states:

> If human skeletal remains are encountered during excavation, all work within seventy-five (75) feet shall immediately stop, and the County Coroner shall be notified within twenty-four (24) hours. If any cultural resources such as chipped or ground stone, historic debris, building foundations, or paleontological materials are encountered during excavation, then all work within seventy-five feet shall immediately stop and the Community Development Director shall be notified at once. Any cultural or paleontological resources found on the site shall be examined by a qualified archaeologist and a mitigation plan shall be submitted to the County for approval prior to implementation.

As written, this performance standard does not adequately address the issue of cultural resources. The performance standard lacks provisions for identifying cultural resources prior to commencement of any ground disturbing activities.

The above performance standard appears in the "Aggregate Resources Element" of the CCRMP. None of the other elements contain a performance standard addressing cultural resources. Channel stabilization (e.g. bank grading, levee construction), habitat restoration and creation (e.g. vegetation removal and revegetation efforts), and recreational use (increased public access) proposed in other elements of the CCRMP have the potential to impact cultural resources.

Alternative 1a: No Project (Existing Conditions)

Under this alternative the County would not adopt the CCRMP, and mining would continue based on 1995 actual production for each producer.

Current in-channel mining permits were issued in 1980 and were subjected to environmental review at that time. The County attached no specific conditions of approval regarding cultural resources. Cultural resources management standards have changed significantly since 1980, especially in terms of the built environment, historical archaeological sites, and paleontological remains. Review of previous studies pertinent to existing mining permits found that they do not conform to current cultural resources management standards. Specifically, historical resources (i.e., buildings, structures, and historical archaeological deposits) were not addressed thoroughly during archival research and field study. Direct impacts to such resources would occur through ground disturbing activities such as mining. Indirect impacts would result from alterations of the settings of historic buildings, and from the collection of fossils and artifacts by personnel. These would be significant impacts requiring mitigation.

Alternative 1b: No Project (Existing Permits and Regulatory Condition)

Under this alternative the County would not adopt the CCRMP, and mining would continue based on currently approved maximum allocations for each producer. Existing permits and regulatory conditions would remain in effect.

Current in-channel mining permits were issued in 1980 and were subjected to environmental review at that time. The County attached no specific conditions of approval regarding cultural resources. Cultural resources management standards have changed significantly since 1980, especially in terms of the built environment, historical archaeological sites, and paleontological remains. Review of previous studies pertinent to existing mining permits found that they do not conform to current cultural resources management standards. Specifically, historical resources (i.e., buildings, structures, and historical archaeological deposits) were not addressed thoroughly during archival research and field study. Direct impacts to such resources would occur through ground disturbing activities such as mining. Indirect impacts would result from alterations of the settings of historic buildings, and from the collection of fossils and artifacts by personnel. These would be significant impacts requiring mitigation.

Alternative 2: No Mining (Alternative Site)

Under this alternative, the County would not adopt the CCRMP. No mining or plant operation would occur within the planning area. However, the potential exists for impacts to cultural resources in off-site mining locations.

Alternative 3: Channel Bank Widening (Implement Streamway Influence Boundary

Under this alternative, the CCRMP would establish a wider channel boundary similar to the Streamway Influence Boundary which describes the historical width of the creek. Local bridge construction would be extended to span the historical creek width. Commercial mining within the creek would be prohibited and the natural forces of the creek would be allowed to occur without active management (e.g., erosion control).

Direct impacts to cultural resources would result from off-channel mining activities including excavation; construction, use, and maintenance of access roads and processing facilities; demolition of buildings; and bridge construction. Indirect impacts would result from failure to manage natural forces of the creek, and from collection of fossils and artifacts by mining personnel.

In contrast to the draft CCRMP, no impacts would result from bank stabilization, habitat restoration, or other maintenance activities.

Mitigation Measure 4.11-1a (CCRMP, A-3)

Performance Standard 6.5-2 of the CCRMP shall be modified as follows:

> *If human skeletal remains are encountered during excavation, all work within seventy-five (75) feet shall immediately stop, and the County Coroner shall be notified within twenty-four (24) hours. If remains are of Native American origin, the appropriate Native American community identified by the Native American Heritage Commission shall be contacted, and an agreement for treating or disposing, with appropriate dignity, of the remains and associated grave goods shall be developed. If any cultural resources such as chipped or ground stone, historical debris, building foundations, or paleontological materials are encountered during excavation, then all work within seventy-five (75) feet shall immediately stop and the Director shall be notified at once. Any cultural resources found on the site shall be recorded by a qualified archaeologist and the information shall be submitted to the County.*

An additional performance standard shall be added to the CCRMP to protect cultural resources as follows:

> *Damaging effects on cultural resources shall be avoided whenever possible. If avoidance is not feasible, the importance of the site shall be evaluated by a qualified professional prior to commencement of excavation operations. If a cultural resource is determined not to be important, both the resource and the effect on it shall be reported to the County, and the resource need not be considered further. If avoidance of an important cultural resource is not feasible, a mitigation plan shall be prepared and implemented. The mitigation plan shall explain the importance of the resource, describe the proposed approach to mitigate destruction or damage to the site, and demonstrate how the proposed mitigation would serve the public interest.*

Mitigation Measure 4.11-1b (A-1a, A-1b)

Impacts to cultural resources within areas where mining currently is permitted shall be mitigated as recommended in the environmental studies completed for permit approval.

Mitigation Measure 4.11-1c (A-2)

None required.

The modified and new Performance Standards required in Mitigation Measure 4.11-1a mitigate potential impacts to archaeological resources to a less-than-significant level for the CCRMP and Alternative 3. Implementation of Mitigation Measure 4.11-1b would reduce the impacts associated with Alternatives 1a and 1b to a less-than-significant level.