7.12 Cultural Resources

7.12.1 Overview

This section provides information regarding archaeological and historic architectural resources in the vicinity of Yuba County Water Agency's (YCWA or Licensee) Yuba River Development Project (Project). The section is divided into five parts. Section 7.12.2 describes Licensee's records searches and findings regarding known cultural resources and surveys in the Project Vicinity.[1] Section 7.12.3 provides a general description of Project Vicinity prehistory and archaeology. Ethnohistory in the Project Vicinity is described in Section 7.12.4. Recent history of the Project Vicinity is provided in Section 7.12.5. The history of YCWA and the Project is described in Section 7.12.6.

Certain terms and concepts used throughout the section require definition as follows:

- **Historic Property**. As defined under 36 CFR 800.16, "historic property" refers to any prehistoric or historic district, site, building, structure, object, or traditional cultural property (TCP) included in or eligible for inclusion in the National Register of Historic Places (NRHP) [36 CFR 800.16(1)].
- **Cultural Resource.** For the purpose of this document, the term "cultural resource" is used to discuss any prehistoric or historic district, site, building, structure, or object, regardless of its NRHP eligibility. Information specific to TCPs is provided in Section 7.13, Tribal Interests.
- **Area of Potential Effects (APE)**. As defined in 36 CFR 800.16(d), the APE is *"...the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historical properties, if any such properties exist."* Geographic areas within the APE need not be contiguous, but rather reflect one or more locations where Project-related activities may affect historic properties.

  Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations found at 36 CFR 800, require agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment (36 CFR 800.1[a]). Under 36 CFR 800.4(a) (1), the APE must be delineated and documented during the historic properties identification stage. Accordingly, Licensee has identified the APE for the Project as all lands within the Federal Energy Regulatory Commission (FERC) Project Boundary.[2]

  The APE is shown in Appendix E of this Preliminary Information Package and described in detail in Section 1.2. In general, the APE is mostly contiguous from its northern extent at Race Track Point on the North Yuba River, south through the New Bullards Bar Reservoir and the New Bullards Bar Dam into the New Colgate Power Tunnel to the Power House on

[1] For the purposes of this document, the Project Vicinity is defined as the area surrounding the Project on the order of a United States Geological Survey (USGS) 1:24,000 topographic quadrangle.

[2] The Federal Energy Regulatory Commission (FERC) Project Boundary is the area that Licensee uses for normal Project operations and maintenance, and is shown on Exhibits J, K, and G of the current license.

the margin of the (main) Yuba River. The APE also includes Project facilities to the east that include two diversion tunnels and dams on Oregon Creek and the Middle Yuba River. One discontinuous section of the APE is southwest of the New Colgate Powerhouse near USACE's Englebright Dam.

- **Data Gathering Area.** For the purpose of this document, the term "Data Gathering Area" refers to the geographic area included in the cultural literature and records searches, as well as for other pre-field efforts used to obtain all pertinent existing, relevant, and reasonably available information. Data gathering areas are generally larger than the APE to allow for flexibility in Project planning, and are not intended to define or infer the location of the FERC Project Boundary, the APE, or potential field studies. The data gathering area used for this Project includes all lands within the FERC Project Boundary (also the APE) plus an additional 0.25-mile radius beyond the FERC Project Boundary.

7.12.2 Background Research

To gather existing, relevant, and reasonably available information regarding cultural resources in the Project Vicinity, two records searches and archival research were performed at State of California repositories. In addition to identifying historic properties and other cultural resources, this research also obtained background information pertinent to understanding the archaeology, history, and ethnohistory of the data gathering area. This information included previously inventoried and recorded cultural resources and documented cultural studies.

Two record searches were conducted in May and June 2009 at the North Central Information Center (NCIC) of the California Historical Resources Information System (HRIS) at California State University, Sacramento (CSU, Sacramento) and the Northeast Information Center (NEIC) at California State University, Chico (CSU, Chico). The record searches included: 1) a review of cultural resources records and site location maps; 2) historic Government Land Office (GLO) maps; 3) an up-to-date list of NRHP-listed properties; 4) the California Register of Historic Resources; 5) the Office of Historic Preservation Historic Property Directories for Yuba, Nevada, and Sierra counties; 6) 1992 California Points of Historical Interest; 7) 1996 California State Historic landmarks; 8) 1976 California Inventory of Historic Resources; and 9) the Caltrans Bridge Inventory.

Additional data gathering will be used to augment the initial records search results in future documents. Repositories that will or may be included for additional data include: the United States Department of Agriculture (USDA) Forest Service (Forest Service), Tahoe National Forest (TNF) and Plumas National Forest (PNF), including any Geographic Information System (GIS) files containing locations of cultural resources and prior cultural resources studies; the State Library; Bancroft Library; local museums and historical societies; and other appropriate facilities identified during the relicensing.

The data gathering area also is in the area that was considered for the environmental analysis of the Proposed Lower Yuba River Accord, which is far more general than the information provided here. FERC's relicensing of the Project is also mentioned in a discussion of potential cumulative impacts within the greater Yuba Region (as defined in that document). The document

assumed that any new conditions imposed by FERC would "not significantly affect cultural resources" (Proposed Lower Yuba River Accord 14-37). The document stated that the overall cumulative effects were less than significant.

7.12.2.1 Previously Recorded Sites

For those portions of the Project located within Yuba and Nevada counties, Licensee identified 149 previously recorded cultural resources on file at the NCIC that lie within the data gathering area. The site assemblage within the data gathering area consists of 68 pre-contact sites, 71 historic period sites, nine multi-component sites, and one site of unknown association.

The sites illustrate a typical cross-section of resources common to the Project Vicinity and all but one of these sites have not been evaluated for significance or NRHP eligibility.

The majority of the historic period site assemblage reflects industrial mining and domestic occupations of the Project Vicinity; almost one-third of the historic period sites contain mining-related features. Historic infrastructure features, predominantly ditches and roads, were also identified in the data gathering area. Native American pre-contact sites in the data gathering area are typical of those found throughout the region, namely locations with bedrock milling features and scatters of lithic material. Other documented pre-contact cultural remains range from an isolated projectile point to evidence of long term occupations evinced by midden deposits, possible house pits, and other domestic features.

Since the first archaeological surveys were conducted in the Project boundaries during the 1960s, 18 archaeological sites and features, 16 of which are prehistoric and 2 of which are historic, have been identified within the APE (Table 7.12.2-1). None of these have been formally evaluated for listing on the NRHP, although a few of them were recommended for additional subsurface testing and excavation prior to inundation by the Project reservoirs in the 1960s.

The 16 prehistoric sites represent a typical cross-section of locations associated with Native American occupation in the Project Vicinity prior to the presence of Euro-Americans. Thirteen sites contain bedrock mortars and seven of those feature lithic tools and debitage. One of the bedrock mortar sites (CA-YUB-0021) was excavated in 1966 as part of a salvage operation before the initial filling of New Bullards Bar Reservoir (Humphreys 1967). Another site contains lithic debitage and lacks bedrock mortars. One bedrock mortar site is associated with depressions, which possibly represent housepits. Two other sites also contain possible depressions, but any association with housepits has not been confirmed. Twelve of the sites within the APE are historically shown to be inundated by New Bullards Bar Reservoir. The two remaining historic-period sites indicate the ranching and transportation history of the vicinity. The site of the former Summit Hill Ranch dates from the 1950s and was largely removed in the 1970s. Another historic site, an abandoned road bed, was possibly associated with *Ramm's Toll Road*.

Table 7.12.2-1. Previously recorded cultural resources within the Project APE.

Trinomial	Primary No.	Recorder/Date	Site Type	Brief Description	NRHP Eligibility
CA-YUB-0018	P-58-0036	Riddell/1966	P	Bedrock mortars (x7) and midden deposits; author recommended testing; currently inundated	Not evaluated
CA-YUB-0019	P-58-0037	Riddell/1966	P	Bedrock mortars (x5) and midden deposits; author recommended no further work; currently inundated	Not evaluated
CA-YUB-0020	P-58-0038	Riddell/1966	P	Single depression, possible housepit; no author recommendation indicated; current inundated	Not evaluated
CA-YUB-0021	P-58-0039	Riddell/1966	P	Bedrock mortars (x51) and village, several areas were indicative of house pits; lithic material; excavated and reported by Humphreys (1967); currently inundated	Not evaluated
CA-YUB-0022	P-58-0040	Olsen/1966	P	Bedrock mortars (number not indicated); author recommended no further work; currently inundated	Not evaluated
CA-YUB-0023	P-58-0041	Olsen/1966	P	Bedrock mortars (x5); author recommended no further work; currently inundated	Not evaluated
CA-YUB-0024	P-58-0042	Riddell/1966	P	Bedrock mortars (x13) and midden deposits; author recommended testing; currently inundated	Not evaluated
CA-YUB-0025-H	P-58-0043-H	Riddell/1966	P/H	Bedrock mortars (x18) and midden deposits; possible prehistoric camp site; historic-period stage stop; author recommended excavation; currently inundated	Not evaluated
CA-YUB-0026-H	P-58-0044-H	Riddell/1966	P/H	Lithic scatter; historic-period farm buildings one site; author recommended no further work; currently inundated	Not evaluated
CA-YUB-0868	P-58-0886	Storm/1977	P	Bedrock mortars (x15) and pestles (x4); briefly exposed during survey (normally inundated by New Bullards Bar Reservoir)	Not evaluated
CA-YUB-0887	P-58-0905	Deen/1977	P	Bedrock mortars (x2); briefly exposed during survey (normally inundated by New Bullards Bar Reservoir)	Not evaluated
CA-YUB-0894	P-58-0912	Storm/1977, Flaherty and Werner/1984	P	Bedrock mortars (at least 6)	Not evaluated
CA-YUB-1054	P-58-1072	Budy/1976	P	Single depression, tool fragments, lithic debris; briefly exposed during survey (normally inundated by New Bullards Bar Reservoir)	Not evaluated
CA-YUB-1217	P-58-1236	Peak/1988	P	Bedrock mortars (x2) and mano fragments (x2)	Not evaluated
N/A	P-58-1579	Boardman/1997	P	Bedrock mortars (x7)	Not evaluated
CA-YUB-1574	P-58-1918	Flaherty and Werner/1984	P	Bedrock mortars (x3)	Not evaluated
N/A	P-58-1532-H	Wayland/1999	H	Former Summit Hill Ranch, a late 1950s construction	Not evaluated
N/A	P-58-1947	Moine/1998	H	Road bed, possible section of Ramm's Toll Road	Not evaluated

7.12.2.2 Potential Historic Sites

A review of historical 7.5-minute United States Geological Survey (USGS) topographic quadrangles and United States Department of Interior (USDOI) Bureau of Land Management (BLM) GLO plats indicates there are at least 44 potential historic-era sites or features (Table 7.12.2-2) within the data gathering area, some of which may be within the APE. Potential historic sites are those places or features which are indicated in historic documentation (personal accounts, maps, regional histories, etc.) that may or may not yet exist; the actual existence of these features has not been confirmed at the potential location. Once the presence of a feature is confirmed during a field investigation, the place would be recorded as an identified cultural resource. Like the identified archaeological sites shown above in Table 7.12.2.1, these mapped

features illustrate the breadth of historic-period activity in the region. Potential historic-era sites or features include roads, trails, residential structures, cabins, orchards, cultivated fields, mines, and mills.

Table 7.12.2-2. Potential historic-period sites within the Project data gathering area.

Type	Description	GLO Data Source (Section, Township, Range, Date)	Quadrangle
Transportation	Unlabeled trails	Sections 4,5 and 6, Township 19 North, Range 8 East (1878)	Strawberry Valley, Clipper Mills
Transportation	Valley and Foster Bar Road	Sections 16,17 and 18, Township 19 North, Range 8 East (1878)	Strawberry Valley, Clipper Mills, Challenge
Mining	Placer diggings	Section 13, Township 19 North, Range 7 East (1871)	Clipper Mills, Challenge
Residence	Bean's house and orchard	Section 13, Township 19 North, Range 7 East (1871)	Clipper Mills, Challenge
Mining/Irrigation	Ditch segment	Section 34, Township 19 North, Range 7 East (1871)	Challenge
Mining	Placer diggings, ditch, flumes	Section 36, Township 19 North, Range 7 East (1871)	Challenge
Transportation	North San Juan and Alleghany Road	Sections 17 and 18, Township 18 North, Range 9 East (1878)	Pike, Camptonville
Field	Possible agricultural field	Section 18, Township 18 North, Range 9 East (1878)	Camptonville
Field	Possible agricultural field	Sections 17 and 18, Township 18 North, Range 9 East (1878)	Pike, Camptonville
Field	Possible agricultural field	Sections 18 and 19, Township 18 North, Range 9 East (1878)	Camptonville
Field and residence	Possible agricultural field and residence (dot on map)	Sections 18 and 19, Township 18 North, Range 9 East (1878)	Camptonville
Transportation	Unlabeled trail	Sections 17,18 and 19, Township 18 North, Range 9 East (1878)	Pike, Camptonville
Transportation	Unlabeled trail	Sections 20 and 21, Township 18 North, Range 9 East (1878)	Pike
Mining/Irrigation	Ditch segment	Sections 19 and 20, Township 18 North, Range 9 East (1878)	Pike, Camptonville
Residence	Cabin	Section 20, Township 18 North, Range 9 East (1878)	Pike
Mining/Irrigation	Ditch segment	Sections 20 and 21, Township 18 North, Range 9 East (1878)	Pike Camptonville
Mining	Old quartz mill	Section 20, Township 18 North, Range 9 East (1878)	Pike
Transportation	Foster Bar Road	Sections 3,4,7,8,and 9, Township 18 North, Range 8 East (1876)	Camptonville
Field	Possible agricultural field	Sections 3 and 4, Township 18 North, Range 8 East (1876)	Camptonville
Transportation	Unlabeled road	Sections 5,6,7 and 8, Township 18 North, Range 8 East (1876)	Camptonville
Transportation	Bridge (over North Yuba River)	Section 7, Township 18 North, Range 8 East (1876)	Camptonville, Challenge
Transportation	Unlabeled road	Section 7, Township 18 North, Range 8 East (1876)	Camptonville, Challenge
Mining/Irrigation	Small ditch	Section 8, Township 18 North, Range 8 East (1876)	Camptonville, Challenge
Mining	Lot No. 37-Nevada Mining Company Placer Mine	Sections 4,8,9, and 17, Township 18 North, Range 8 East (1876)	Camptonville
Transportation	Road from San Juan to Camptonville	Sections 9,10,11 and 16, Township 18 North, Range 8 East (1876)	Camptonville
Transportation	Unlabeled road	Sections 10 and 11, Township 18 North, Range 8 East (1876)	Camptonville
Mining	Old gold diggings	Section 11, Township 18 North, Range 8 East (1876)	Camptonville
Transportation	"Old Road" and road segments	Section 13, Township 18 North, Range 8 East (1876)	Camptonville
Transportation	"Old Road" segment	Section 14, Township 18 North, Range 8 East (1876)	Camptonville

Table 7.12.2-2. (continued)

Type	Description	GLO Data Source (Section, Township, Range, Date)	Quadrangle
Transportation	"Old Road" segment	Sections 10 and 15, Township 18 North, Range 8 East (1876)	Camptonville
Transportation	Unlabeled road	Sections 16 and 17, Township 18 North, Range 8 East (1876)	Camptonville
Field	Possible agricultural field	Sections 17 and 20, Township 18 North, Range 8 East (1876)	Camptonville
Transportation	Unlabeled road segments	Sections 17,19 and 20, Township 18 North, Range 8 East (1876)	Camptonville, Challenge
Mining/Irrigation	Ditch	Sections 19,20 and 29, Township 18 North, Range 8 East (1876)	Camptonville, Challenge
Transportation	Unlabeled road	Sections 29 and 30, Township 18 North, Range 8 East (1876)	Camptonville, Challenge
Transportation	Unlabeled trail	Section 30, Township 18 North, Range 8 East (1876)	Camptonville, Challenge
Transportation	Unlabeled road segments	Sections 1,2,3 and 12, Township 18 North, Range 7 East (1878)	Challenge
Agriculture	McConnell's Orchard	Sections 2 and 3, Township 18 North, Range 7 East (1878)	Challenge
Transportation	Unlabeled road	Sections 11, 13 and 14, Township 18 North, Range 7 East (1878)	Challenge
Transportation	Romb's Bridge	Section 13, Township 18 North, Range 7 East (1878)	Challenge
Field	Possible agricultural field	Section 24, Township 18 North, Range 7 East (1878)	Challenge
Transportation	Unlabeled trail (connects with trail in Section 30, Township 18 North, Range 8 East)	Section 25, Township 18 North, Range 7 East (1878)	Challenge
Transportation	Bullard's Bar Road	Sections 2,3, and 4, Township 17 North, Range 7 East (1874)	French Corral
Transportation	Road to San Juan	Section 23, Township 16 North, Range 6 East (1876)	Smartville[3]

Because the information above is based only on the reviewed maps, it is not currently known if physical attributes associated with the potential sites and features still exist or if the remains are within the APE. One would expect to identify surface or near-surface expressions of historic period activities in these locations, if the locations remain undisturbed, because of their relative isolation and the lack of very active depositional processes in these areas.

7.12.2.3 Previous Cultural Studies

Ninety-six previous cultural resource investigations were identified within the data gathering area, as defined above for the Project. The majority of the reports identified in the data gathering area were prepared in support of timber harvest plans. Humphreys (1967), Storm (1974), Johnson and Theodoratus (1978), and Jones (1982) are prominent among the reports that discuss known and potential archaeological resources within the APE, particularly along the riverine margins prior to inundation of the New Bullards Bar Reservoir. These surveys (and many of the earlier surveys) will provide the basis for field assessments of existing conditions, as well as excellent sources of primary and secondary information in identification of resources and assessment of Project-related effects on discovered resources.

[3] In 2008, the people of this community petitioned to have the name changed to Smartsville, with an 's'. However, the USGS gage refers to the former spelling of the community name. Therefore in this document, the community is referred to as such.

Including the four reports specified above, approximately 70 percent of the surveys occurred 10 or more years ago, provide insufficient information to determine the adequacy of the coverage employed, or report methods that indicate the survey coverage was broad or otherwise did not fully cover the areas included in those projects. This may also correspond to and affect the adequacy of past studies that have occurred in the Project APE. Thus, portions of the APE may need to be resurveyed to current professional standards.

Table 7.12.2-3. Previous surveys within the Project APE.

NCIC/NEIC Report No.	Author	Date	Title	County	Quadrangle
NCIC-48	Johnson, Jerald and Dorothea Theodoratus; Storm, Donald	1978; 1974	Cultural Resources of the Marysville Lake, California Project (Parks Bar Site), Yuba and Nevada Counties, California; An Archaeological Site Survey of Selected Portions of the Proposed Marysville Dam Project, Yuba River, California	Yuba, Nevada	French Corral, Oregon House, Smartville
NCIC-456	Origer, Thomas	1985	A Report on the Archaeological Reconnaissance of Pacific Gas and Electric Company's Camptonville Timber Sale Project, Yuba County, California	Yuba	Camptonville
NCIC-517	Humphreys, Stephen	1967	The Archaeology of the New Bullard's Bar Reservoir, Yuba County, California	Yuba	Camptonville
NCIC-596	Storm, Donald	1980	Cultural Resource Investigation of the Ingersoll Subdivision Tracts 200, 222, and 224, near Dobbins, Yuba County, California	Yuba	French Corral
NCIC-639	Andrews, Steven	2001	YWCA Fire Salvage Timber Harvest Plan	Yuba	Challenge
NCIC-642	Maniery, James and Mary Maniery	1997	Cultural Resources Inventory of the Soper-Wheeler Land Exchange, Plumas National Forest, California	Yuba	Challenge, Clipper Mills, French Corral, Strawberry Valley
NCIC-650	Leonhard, Scott	1997	Bullards Bar Timber Harvest Plan	Yuba	Challenge, French Corral
NCIC-651	Rieger, Larry	1992	Browning Timber Harvest Plan	Yuba	Camptonville
NCIC-789	Beeson, Allison	1998	Middlebrook Timber Harvest Plan	Yuba	French Corral
NCIC-804	Jones, Terry	1982	The North Yuba Survey: A Prehistoric Archaeological Survey of 14,000 acres in the Northern Sierra Nevada; also Archaeological Survey of the Hawkfly and the North Yuba Timber Compartments and the Pride Timber Sale	Yuba (and Sierra)	Camptonville, Challenge, Clipper Mills, Strawberry Valley
NCIC-827	Day, Hollis	1998	New Bullards Bar Timber Harvest Plan	Yuba	Camptonville
NCIC-834	Newcomb, Alan	1996	Mumm Timber Harvest Plan	Yuba	Camptonville
NCIC-841	Levy, David	1992	Lacey-Kelly Timber Harvest Plan	Yuba	Challenge
NCIC-873	Bystry, Carl	1994	Henry Timber Harvest Plan	Yuba	Challenge
NCIC-876	Frey, Richard	1991	Greenville Timber Harvest Plan	Yuba	Challenge
NCIC-881	Cifelli, Chris	1977	Burnt Bridge Trail	Yuba	Challenge
NCIC-908	Werner, Roger and Jay Flaherty	1981	Marysville Road Cultural Resources Investigation	Yuba	Camptonville
NCIC-921	Gillett, Lucky	1994	Ruth Timber Harvest Plan	Yuba	French Corral
NCIC-1005	Wiant, Wayne	1988	Addendum-Archaeological Reconnaissance of the Proposed New Diversion and Access Road Locations for the Deadwood Creek Water Power Project	Yuba	Strawberry Valley
NCIC-1129	Smith , Douglas	1997	Pendola Ranch Timber Harvest Plan - Additional Harvest Acres	Yuba	Camptonville
NCIC-1130	Smith , Douglas	1999	Pendola Ranch Timber Harvest Plan - Additional Harvest Acres	Yuba	Camptonville
NCIC-1982	Wise, David	1999	Jones Timber Harvest Plan	Yuba	Challenge
NCIC-2038	Newcomb, Alan	1997	Robert Mumm Timber Harvest Plan	Yuba	Camptonville
NCIC-2756	Keenan, Kelly 2001		UC Field Station Vegetation Management Plan	Yuba	Oregon House, Smartville
NCIC-2757	Whittlesey, Nicholas	2001	Soroptomist II Timber Harvest Plan	Yuba	Camptonville, Challenge
NCIC-5608	Deal, Krista	1980	Archaeological Reconnaissance Report, Elbow Timber Sale	Yuba	Camptonville
NCIC-6014	Jones and Stokes	2003	Cultural Resources Inventory and Evaluation Report for the Yuba-Feather Supplemental Flood Control Project, Yuba County, California	Yuba	Challenge

Table 7.12.2-3. (continued)

NCIC/NEIC Report No.	Author	Date	Title	County	Quadrangle
NCIC-6653	Furlong, Steven	2005	An Archaeological Survey Report for the Steber Timber Harvesting Plan, Nevada County, California	Yuba	Challenge
NCIC-6675	McMorris, Christopher	2004	Caltrans Historic Bridges Inventory Update: Metal Truss, Movable, and Steel Arch Bridges	Yuba	Camptonville
NCIC-6928	Jensen, Erik	2006	An Archaeological Survey Report for the Section 28 CHY 80 Amendment, Yuba, California	Yuba	Challenge
NCIC-6973	Long, Kelly	2005	An Archaeological Survey Report for the Fuel Reduction on Private Lands in the Forest Service Slapjack DFPZ - Middlebrook, A Proposition 40 Project, Yuba County, California	Yuba	French Corral
NCIC-7093	Leonhard, Scott	1998	Pendola Timber Harvest Plan	Yuba	Challenge
NCIC-7096	Helm, Wayne	1999	Little Oregon Creek/Fountain House Emergency Timber Salvage	Yuba	Challenge
NCIC-7097	Kostick, Greg	1996	Vierra Timber Harvest Plan	Yuba	Challenge
NCIC-7099	Compas, Lynn	2004	Cultural Resource Inventory for Pacific Gas and Electric's Proposed Colgate-Smartville #1 60 kV Transmission System Replacement Project, Yuba County, California	Yuba	French Corral, Oregon House, Smartville
NCIC-7112	McKillop, Ryan	1998	Empire Creek Timber Harvest Plan	Yuba	Clipper Mills
NCIC-7145	Jensen, Erik	2003	An Archaeological Survey Report for the Section 27 Timber Harvesting Plan, Yuba County, California	Yuba	Challenge
NCIC-7146	Carr, Rick	2004	An Archaeological Survey Report for the Amendment Area on Section 27 Timber Harvesting Plan, Yuba County, California	Yuba	Challenge
NCIC-7537	Bevill, Russell and Heath Browning	2006	Strawberry Etals Heritage Resource Inventory, Feather River Ranger District, Plumas National Forest, Plumas, Sierra, and Yuba Counties, California	Yuba	Strawberry Valley
NCIC-7598	Bjorkman, Philip	1992	McClellan Middle Fork Timber Harvest Plan	Nevada, Yuba	Camptonville
NCIC-7630	Kostick, Greg	2000	Hewton Timber Harvest Plan	Yuba	Challenge
NCIC-7632	Henrie, LeAnn	1995	Cultural Resource Inventory for the Bullards Bar Underburn, Yuba County, Downieville Ranger District, Tahoe National Forest	Yuba	Challenge
NCIC-7636	Kostick, Greg	2000	Patterson Timber Harvest Plan	Yuba	Challenge
NCIC-7638	Windward, Stephen	2002	Oregon Hill Timber Harvest Plan	Yuba	Challenge
NCIC-7640	Wayland, Brian	1999	Summit Hill Ranch Timber Harvest Plan	Yuba	Challenge
NCIC-7646	Stevens, Dennis	1995	Cultural Resource Inventory of the Bullards Bar Water System Replacement, Yuba County, Downieville Ranger District, Tahoe National Forest, Report Number 05-17-1145	Yuba	Challenge
NCIC-7852	Rogers, Terry	1998	Ingersoll-Dobbins Timber Harvest Plan	Yuba	French Corral
NCIC-7858	McCall, Dan	2001	Whitehead Timber Harvest Plan	Yuba	Challenge, Clipper Mills
NCIC-7859	Boardman, Stan	1997	Chute Ravine Timber Harvest Plan	Yuba	Challenge, French Corral
NCIC-7882	Gillett, Lucky	2000	Vierra II Timber Harvest Plan	Yuba	Challenge
NCIC-7888	Johnson, James	1992	Burnt Ridge Timber Harvest Plan	Yuba	Challenge
NCIC-8233	Peak, Melinda	1988	Cultural Resources Assessment of the Colgate Tunnel Timber Sale Area, Yuba County, California	Yuba	Challenge, French Corral
NCIC-8297	Banka, William	2001	Pendola Ranch Timber Harvest Plan	Yuba	Camptonville
NCIC-8302	Meals, Hank	1979	Camptonville Station Parking Lot Expansion	Yuba	Camptonville
NCIC-8308	Gillett, Lucky	2000	Celestial Valley Ditch Timber Harvest Plan	Yuba	Camptonville
NCIC-8311	Keye, William	1993	Toll House Timber Harvest Plan	Yuba	Camptonville
NCIC-8318	Davidson, Dario	2002	59er Timber Harvest Plan	Yuba	Camptonville
NCIC-8320	Leonhard, Scott	1996	Celestial Valley Timber Harvest Plan	Yuba	Camptonville
NCIC-8335	Leonhard, Scott	2001	Shappert Timber Harvest Plan	Yuba	Camptonville
NCIC-8388	Day, Donna	1984	Archaeological Reconnaissance of the Race Track Mining Claim	Yuba	Strawberry Valley
NCIC-8401	Werner, Roger and Julia Costello	1984	Archaeological Reconnaissance of the Deadwood Creek Water Power Project	Yuba	Strawberry Valley

Table 7.12.2-3. (continued)

NCIC/NEIC Report No.	Author	Date	Title	County	Quadrangle
NCIC-8403	Stevens, Dennis	1997	Jaybird Timber Sale	Yuba	Camptonville, Strawberry Valley
NCIC-8406	Fogerty, J.	2002	Heritage Resources Inventory for the Lower Slate Defensible Fuel Profile Zone	Yuba	Strawberry Valley
NCIC-8412	Amesbury, Tom	1998	Milk Ranch Timber Harvest Plan	Yuba	Challenge
NCIC-8434	Wheeler, Thomas and Dan Stevens	1980	Studhorse Road Relocation Project Archaeological Survey	Yuba	Camptonville
NCIC-8438	Wheeler, Thomas	1980	Marysville Road Improvement Archaeological Report	Yuba	Camptonville
NCIC-8439	Stevens, Dennis	1997	Schoolhouse, Dark Day and Hornswoggle Campgrounds Rebuild Archaeological Report	Yuba	Camptonville
NCIC-8441	Day, Donna	1983	Archaeological Reconnaissance Report - Short Form - Milk Ranch Mining Claim	Yuba	Challenge
NCIC-8446	Stevens, Dennis	1993	Cultural Resources Inventory of the Oregon Creek Analysis Area, Yuba and Sierra Counties, Downieville Ranger District, Tahoe National Forest	Yuba	Camptonville
NCIC-8447	Stevens, Dennis	1994	Cultural Resources Inventory of the Oregon Creek Analysis Area, Yuba and Sierra Counties, Downieville Ranger District, Tahoe National Forest (Addendum 1)	Yuba	Camptonville
NCIC-8450	Davidson, Dario	1995	Lowman Timber Harvest Plan	Yuba	Camptonville
NCIC-8456	Davidson, Dario	2002	Tanoak Timber Harvest Plan	Tuba	Strawberry Valley
NCIC-8457	Stevens, Dennis	1988	Skyline Compartment Timber Sale	Yuba	Camptonville, Challenge
NCIC-8458	Gillett, Lucky	1995	Soroptomist Timber Harvest Plan	Yuba	Camptonville, Challenge
NCIC-8459	Stevens, Dennis	1997	Moran Road Turnaround and Dark Day Parking Lot Expansion Archaeological Report	Yuba	Camptonville, Challenge
NCIC-8460	Stevens, Dennis	1982	Mosquito Timber Sale Archaeological Reconnaissance Report	Yuba	Camptonville, Challenge
NCIC-8468	Day, Donna	1985	Cultural Resources Inventory Report for the Oregon Hill Timber Compartment	Yuba	Challenge
NCIC-8551	Johnson, James	1999	4-H Camp Timber Harvest Plan	Yuba	Challenge
NCIC-8552	Walden, Peter	2000	Burnett Timber Harvest Plan	Yuba	Challenge
NCIC-8555	Johnson, James	1994	Hauck/Dunston Timber Harvest Plan	Yuba	Challenge
NCIC-8558	Rieger, Larry	1994	Colgate-Challenge T/L Timber Harvest Plan	Yuba	French Corral
NCIC-8559	Violett, Paul	1992	Gellerman Timber Harvest Plan	Yuba	Challenge, French Corral
NCIC-8562	Gillett, Lucky	1994	Slapjack Timber Harvest Plan	Yuba	Challenge
NCIC-8566	Day, Hollis	1997	Bean Ranch Timber Harvest Plan	Yuba	Clipper Mills
NCIC-8575	Johnson, James	1995	Paredes Timber Harvest Plan	Yuba	Camptonville, Challenge
NCIC-8591	Boudreauz, Daniel	2006	An Archaeological Survey Report for the Bullard Timber Harvesting Plan, Yuba County, California	Yuba	Challenge
NCIC-8665	Compas, Lynn and April Van Wyke	2007	Cultural Resources Inventory and National Register of Historic Places Evaluation of the Narrows Substation Transformer Bank Installation, Narrows Hydroelectric System (FERC No. 1403), Nevada County, California	Nevada	Smartville
NCIC-8733	Furlong, Steve	2007	An Archaeological Survey Report for the Thompson Timber Harvesting Plan, Yuba County, California	Yuba	Challenge
NCIC-9297	Dwyer, Erin and Elena Nilsson	2004	Heritage Resource Inventory of the Slapjack DFPZ, Plumas National Forest, California	Yuba	Challenge, Clipper Mills, Strawberry Valley
NCIC-9326	Leach-Palm, Laura et al.	2008	Cultural Resources Inventory of Caltrans District 3 Rural Conventional Highways in Butte, Colusa, El Dorado, Glenn, Nevada, Placer, Sacramento, Sierra, Sutter, Yolo, and Yuba Counties	Yuba	Camptonville
NEIC-1177	Werner, Roger H. and Flaherty, Jay M.	1981	Ridge Road Cultural Resources Investigation	Sierra	Camptonville

Table 7.12.2-3. (continued)

NCIC/NEIC Report No.	Author	Date	Title	County	Quadrangle
NEIC-1388	Halloran, Molly O	1992	Cultural Resource Inventory of the Oregon Insect Young Growth Special Salvage Timber Sale, Sierra County, Downieville Ranger District, Tahoe National Forest, Report Number 05-17-1005	Sierra, Yuba	Goodyear's Bar, Camptonville, Pike, Strawberry Valley
NEIC-2727	Rogers, Terry	1999	Grizzly Gulch Timber Harvest Plan	Sierra	Camptonville
NEIC-2733	Davidson, Dario	1999	Bope Timber Harvest Plan	Sierra	Pike and Camptonville
NEIC-3769	Davidson, Dario	1995	Lowman Timber Harvest Plan	Sierra, Yuba	Pike and Camptonville
NEIC-4865	Ferrier, Douglas	1995	Landsburg/Kerr Timber Harvest Plan	Sierra	Camptonville

7.12.3 Prehistory and Archaeology

Interpretations of California prehistory have gone through substantial changes over the last several decades. These changes are based on advances in dating techniques, a substantial increase in information resulting from the advent of Cultural Resources Management (CRM), new analytic techniques, including mitochondrial deoxyribonucleic acid (DNA) analysis, and advances in method and theory. More detailed environmental reconstructions and a better understanding of the geomorphic processes that affect site formation and preservation have also contributed to our understanding of prehistory (Rosenthal [Draft] 2006).

With the exception of the Lake Tahoe area, most early archaeological work in the Central Sierra Nevada was conducted at the lower to middle elevations along the major rivers draining the western Sierran slope, including the north, middle, and south forks of the Yuba River (including many locations within the data gathering area), the Bear River, and the north and middle forks of the American River. Additional rivers associated with this drainage system include the Truckee River, the Little Truckee River, and the Middle Fork of the Feather River. Numerous tributaries feed these rivers, depositing water into various bodies on both sides of the Sierran crest (Markley and Henton 1985).

Early efforts focused on the development of local cultural chronology in the Lake Tahoe vicinity. Beginning more than 50 years ago, Robert Heizer and Albert Elsasser (1953) defined two sequential archaeological cultures, termed the Martis and Kings Beach complexes from investigations in the Lake Tahoe area. Reflecting a generalized hunting and gathering economy, Martis traits include: the dominant use of basalt over other lithic materials; manos and metates for grinding plant foods; bowl mortars and cylindrical pestles, presumably for pounding acorns; atlatl weights and large, crudely shaped dart points; and varied forms of scrapers and other flake tools. Comparisons with dated assemblages in the Central Valley and Great Basin suggested an age of 2,000 to 4,000 years (Heizer and Elsasser 1953; Moratto 1984; Hull 2007).

In contrast, the Kings Beach Complex postdates A.D. 1000 and may have extended into historic times, reflecting the ethnographic culture of the Washoe Indians. Kings Beach components feature *"...flaked obsidian and silicate implements, small projectile points, the bow and arrow, occasional scrapers, bedrock mortars, and a subsistence emphasis on fishing, piñon nut gathering, and some hunting"* (Moratto 1984: 295).

Prior to the Martis and Kings Beach complexes, Middle Holocene occupation in the Project Vicinity, derived from archaeological investigations of the 1960s and 1970s, is represented by the Tahoe Reach and Spooner phases. Components dating between 5000 and 3000 B.C. are relatively rare, and little is known about prehistoric lifeways during this interval. Flat slab millingstones, loaf shaped manos, large foliate, and corner notched projectiles are common elements of these assemblages.

Numerous components dating between 3000 B.C. and A.D. 500 (Early and Late Martis phases) indicate that expanding populations used a diverse subsistence base at middle and lower elevations, with a possible emphasis on hunting at higher elevations (Hull 2007). A period of climatic change and environmental stress between A.D. 500 and 1250 may have prompted significant population movements along the western slope; population decline, technological changes, and shifting land use patterns reflected in the Kings Beach Phase may signal the movement of different ethnic groups.

The Spooner, Martis, and Kings Beach complexes of the Lake Tahoe vicinity, extensively studied with a rich dataset, served as the comparative reference for archaeological investigations in the 1960s at Lake Oroville (to the northwest), Auburn (to the south), and to a lesser extent at New Bullards Bar. These investigations contributed greatly to the information on prehistory of the western slopes of the Sierras (Moratto 1984:297-302). Cultural materials analyzed during archaeological investigations prompted by reservoir inundation at Lake Oroville led to the development of a chronology for the region. The occupations represented in the sites' artifact assemblages indicated prehistoric people occupied the region sporadically (and furthermore perhaps seasonally) from 1000 B.C. to A.D. 0, as illustrated by the Mesilla Complex, which is represented by atlatl and dart projectiles, bowl mortars, and millingstones (Moratto 1984:299; Sturtevant 1978:53).

Subsequently, more sedentary life associated with the Bidwell Complex, dating to around A.D. 800, is visible in the village sites from this period (Moratto 1984:300), which was followed by the Sweetwater Complex (A.D. 800 to 1500), represented by smaller, lightweight projectile forms indicative of bow hunting, changes in burial practices, and the presence of ornamental forms (Moratto 1984:299).

The Oroville Complex (A.D. 1500 to historic Maidu) is represented by the continuation of the bedrock milling practices developed during earlier occupation, but with greater variety of ornamental materials and house structures, along with the introduction of burial cairns (Moratto 1984:300). To the south at Auburn, the 1960s excavation at the stratified Spring Garden Ravine Site (Pla-101) provided comparable reference points to the Oroville and Tahoe complexes and was, based on ethnographic data, assumed to be the focus of ancestral Nisenan (also Southern Maidu) culture (Moratto 1984:301). In addition, Humphreys' (1967, 1969) comparative analysis of materials from three archaeological sites at Bullards Bar drew close comparisons from both the Mesilla to Sweetwater and Martis to Kings Beach assemblages (Moratto 1984:300). The cultural influences, visible in the stratified materials at these and other sites, from the Sacramento Valley (as well as the Lake Tahoe area) were evident in the Oroville, Auburn, and (by association with these) the Bullards Bar Assemblage as well (Moratto 1984:300-302).

Significant research conducted after 1980 has attempted to place the Project Vicinity within a broader regional and transregional context. Studies such as Kowta's (1988) examination of Plumas and Butte county prehistory, the *Framework for Archaeological Research and Management for the North-central Sierra Nevada* (Jackson et al. 1994), and Moratto and Hull's (1999) *Archaeological Synthesis and Research Design, Yosemite National Park* have synthesized large bodies of data, expanded our understanding of prehistoric land use and settlement systems, and identified *"...broad research themes that structure the discussion of significant archaeological interpretations since 1980"* (Hull 2007: 183).

7.12.4 Ethnohistory

The ethnohistory of the Project Vicinity is reflected in the documented traditions of the Nisenan (Southern Maidu) and Konkow (Northwestern Maidu). These groups (as well as the Maidu to the northeast) share a common language family and other traditions, but are sufficiently distinct to warrant individual discussions. The Yuba and American rivers, the focus of the APE and immediate environs, are home to Nisenan. Influences from the nearby Konkow in the data gathering area are also possible, and a discussion of their traditions is warranted.

Nisenan

The Project Vicinity area is generally considered the homeland of the Nisenan, also referred to as the Southern Maidu, the southernmost branch of the Maidu-Konkow group occupying the Yuba, Bear, and American river drainages and the lower drainages of the Feather River. Nisenan is a sub-group of the Californian Penutian linguistic family. Languages classified as Penutian were spoken by half of California's native population in 1750. Intra-familial connections between its subgroups have not been proven, making this classification vague (Moratto 1984:538-539).

Kroeber (1925) recognized three Nisenan dialects. Two of these are northern dialects, the Northern Hill Nisenan and the Valley Nisenan, while the third is a southern dialect, the Southern Hill Nisenan. Kroeber suggests that the distinctions between languages should be associated with the changes in terrain, affecting differences in custom and language. Dialectic idioms noted by Kroeber and attributed to changes in landscape and population distributions are codified in Shipley's (1978) identification of seven Southern Nisenan dialects, classified as Valley Nisenan, Oregon House, Auburn, Clipper Gap, Nevada City, Colfax, and Placerville.

At the time of contact, Nisenan territory comprised major portions of El Dorado, Amador, Placer, and Nevada counties (Beale 1933). Wilson and Town (1978) recognized three centralized political divisions within the Valley Nisenan,

> *…each densely populated with several large villages...One was centered at the mouth of the American River extending east a few miles north and south on the Sacramento River. Pusune (pusu-ne) was an important village. Another center was at the mouth of the Bear River including the valley drainage of the Near and a stretch of the Feather River. One major village was Hok. A third area was at the mouth of the Yuba River and reached the northern Nisenan boundary.*

> *Hill Nisenan, between the Consumnes River and the south fork of the American River near Placerville, formed another tribelet with strong affiliations with groups living the lower drainages of the American. And in ridges that lay along the south fork of the American river.*
>
> *People occupying the ridges between the Bear River and the middle fork of the American River, including the ridges between the American River and at the Bear, formed another tribelet area. The territory of the Upper drainages of the Bear and the Yuba rivers also is identified as forming another tribelet (LittleJohn 1928:10-15)*

The Northern Hill Nisenan prehistorically occupied a majority of the Project Vicinity. At higher elevations, people occupied ridges, knolls, or terraced areas near water; to the west, occupation centered on elevated landforms along the streams and marshlands of the valley floor (Kroeber 1925; Wilson and Towne 1978). Main villages were occupied only for short periods of time during the year. Family groups commonly lived away from the main villages during gathering seasons. Other sites included seasonal camps, quarries, ceremonial grounds, trading sites, fishing stations, cemeteries, river crossings, and battlegrounds (Wilson and Towne 1978). Kroeber (1925) depicts two Nisenan villages in the Project Vicinity, namely Panpakan near the Deer Creek/Yuba River confluence and Yamaku at the confluence of the Middle and South forks of the Yuba.

The Nisenan were year-round hunters and gatherers with access to varied biotic zones distributed across the western slope of the Sierra Nevada (Hull 2007:180). Hunting was done communally, by conducting drives and burning, with the best marksman doing the killing. Deer, antelope, elk, black bear, wildcats, mountain lions, and other small game were caught and roasted, baked, or dried. Gathering was also a communal activity, organized around seasonal ripening of specific resources including roots, wild onion, wild sweet potato, Indian potato, and a variety of nuts. Acorn was a major staple of the Nisenan diet; these were shelled, ground into flour, and stored for year-round use.

Some fishing holes or territories for deer drives were utilized by certain grouped families; however, individual hunters crossed family and political boundaries with impunity (Wilson and Towne 1978; Kroeber 1925).

The Nisenan used many tools including stone knives, arrow and spear points, scrapers, pestles, and mortars. Weirs, nets, harpoons, traps, and gorgehooks were used for fishing from tule balsas and log canoes. Baskets were woven from willow and redbud and were used for storage, cooking, and processing (Hull 2007; Wilson and Towne 1978; Kroeber 1925). Materials for most tools and ornaments were obtained locally. However, a network of trails crossed Nisenan territory allowing for access and trade with other areas. The same trade networks moved north and south along the west face of the Sierra and along the crest of the range, allowing access to non-local goods to supplement local resources.

Koncow

The Project Vicinity is close to the traditional territory of the Native American communities known collectively as the Koncow. The Koncow (Northwestern Maidu) are one of three main

groups representing the Maiduan language family. The other two include the Maidu (Mountain Maidu or Northeastern Maidu) and the Nisenan (Southern Maidu) (Riddell 1978:370). Maiduan is one of four language families (Maiduan, Wintuan, Yokutsan, and Utian) and one isolated language (Klamath-Modoc) included within the Penutian linguistic stock (Moratto 2004:538). However, Moratto (2004:538) notes that years of linguistic research have not been able to confirm Penutian as a "stock," that the relationships of languages included in this category are not clearly defined, and therefore cautions that the use of the term "Penutian" is merely heuristic.

The Koncow occupied portions of the Feather River, Butte, and Chico creek watersheds and part of the northern Sacramento Valley. Koncow was spoken in multiple dialects in a territory that roughly included the Chico area, extended northeast to Richbar, and south to Pilot Peak and the Sutter Buttes (Shipley 1963:1; Riddell 1978:370). Pioneer ethnographers such as R. Dixon, C. Hart Merriam, Stephen Powers, and A.L. Kroeber documented the lifeways of the Koncow in the early twentieth century and left the information in publications, manuscripts, and field notes. Later research during the 1960s-1970s by Dorothy Hill, Francis Riddell and others, has also been a valuable source of information on the traditional lifeways of the Koncow, as summarized below.

The Koncow lived in village communities, which were the only form of political organization of the Koncow. Each village community was an autonomous political unit that was comprised of several adjacent villages governed by a head man or chief (Dixon 1905:223). Land was not individually owned but rather held in common by the community to allow all members access to any territory for the purposes of hunting, fishing, and other food procurement activities (Dixon 1905:225; Riddell 1978:379). Village size varied and sometimes included as many as 20 or more earth-covered lodges or as few as one single lodge (Dixon 1905:175). In the foothills, settlements were situated along ridges above the rivers, on small flats on the crest of a ridge, or part way down the side of a canyon (Dixon 1905:175).

The Koncow utilized different types of structures for social activities and residential use. Social activities occurred in circular, semi-subterranean structures used as a covered dance house, a sweathouse, or a regular dwelling. Residences included either small conical huts built at ground level with very little excavation and covered with various materials, or were simple lean-to structures used in the summer and made from boughs and branches (Dixon 1905:168).

Koncow territory, including village communities, hunting, and fishing areas, were well connected by trails. However, with the exception of hunting trips, the Koncow did not travel far distances from home and rarely traveled more than 20 miles. They were in contact, at a minimum, with the Yana, Nomlaki, Wintu, Patwin, Maidu, and Nisenan, and relied on trade for items that they were unable to procure within their territory. Trade secured shell beads, pine nuts, and salmon in return for arrows, bows, deer hides and several types of food (Riddell 1978:380).

The Annual Cycles of Fishing, Hunting, and Gathering. Hunting, fishing, and gathering were conducted on a seasonal cycle to procure a wide variety of plants and animals for subsistence and material needs. Plant gathering was one of the most important aspects of Koncow subsistence and was usually conducted by women. The only exception was acorn gathering, which was a

community task (Shipley 1991:11). Plants were commonly processed using pestles in both portable and bedrock mortars, and with metates and manos. While some of the plant products were prepared immediately, others were dried and stored in storage baskets and granaries.

The Koncow used hundreds of species of plants for subsistence, material, and medicinal purposes. Most parts of the plants were used, including the roots, stems, leaves, and seeds. During the spring, roots and bulbs were collected. Roots were gathered with a digging stick measuring about a meter in length, which had been shaped at the tip using obsidian and hardened with fire. Often the roots were stored for a period of several months and eaten raw, roasted, boiled, dried, or baked (Dixon 1905:189).

Between May and August, the Koncow gathered seeds using beaters to knock the seeds from grasses and plants into basket trays. The seeds were then transferred to burden baskets used to transport the seeds back to the settlement. Seeds were either stored or eaten immediately and were ground or mixed with water to make dough for bread or different types of soups. Plant species used for seed collection included western columbine (*Aquilegia formosa*), tarweed (*Madia glomerata*), and the California compass plant (*Wyethia angusifolia*) (Dixon 1905:183).

In autumn, the Koncow burned their territory for a variety of reasons. Burning the leaves and roots of certain plants stimulated the growth of new shoots that could then be gathered and used for basket making or other material needs. The annual burning also kept down the underbrush to make travel easier and decrease the chance of an ambush from a neighboring tribe (Dixon 1905; Kroeber 1925:396). Following the annual burns, the Koncow gathered manzanita berries (*Arctostaphylos pungens*), strawberries (*Fragaria sp*.), thimbleberries (*Rubus glaucifolius*), service berries (*Amerlanchier pallida*), elderberries (*Sambucus glauca*), and gooseberries (*Ribes occidentale*) (Dixon 1905:182). Many of the berries were dried and stored for the winter. Berries were commonly mixed with acorn cakes and baked, or wrapped in leaves and baked. Manzanita berries were commonly used to make cider. Other food sources for the Koncow included yellow jacket larvae, angleworms, locusts, grasshoppers and crickets (Riddell 1978:374).

The most important food item for the Koncow was acorn (usually referred to collectively by California Indians as “wheat” or “rice”). Acorn served as a staple diet and was communally collected during the fall. Acorn nuts were collected by hand, carried in burden baskets, and stored in granaries throughout the year. The acorns were shelled first to dry the meat. They were cracked with two stones and the meat was spread in the sun. The acorns were then milled with a pestle and hopper mortar or plain rock mortar. The ground acorn was leached with warm water to remove water-soluble bitter tannins and toxic alkaloids.

The Koncow recognized at least a dozen different acorn varieties but preferred black oak (*Quercus kelloggii*), the canyon or golden oak (*Quesrus chrysolepis*), and the interior live oak (*Quercus wislizenii*) (Dixon 1905:181). They also gathered foothill pine (*Pinus sabiniana*) nuts, grinding the meat into flour and using the shells for beads (Riddell 1978:374).

Basketry was a critical component of gathering, processing, and sorting subsistence materials. Both coil and twining techniques were employed to make hopper baskets, winnowing baskets,

seed beaters, large burden baskets, and smaller burden baskets. Baskets were made with a variety of plants but were predominately woven using willow (*Salix spp.*), redbud (*Cercis occidentalis*), bear grass (*Xerophyllum tenax*), common brake (Pteridium acquilinum), maidenhair fern (*Adiantum pedatum*), hazel shoots (*Corylus corunta*) and ponderosa pine (*Pinus ponderosa*) (Dixon 1905:145; Riddell 1978:376).

Winter months saw little gathering and held a greater reliance on hunting and fishing. Little went to waste as the Koncow utilized the flesh, skin, horns, bones, and hooves of animals for food, shelter, clothing, tools, and medicine (Riddell 1978:373). The ability of the Koncow to use plants and animals in such a wide range of efforts was a result of their diverse technologies. Hunting relied on bows and arrows, knives, spears, nets and snares (Shipley 1991:11; Riddell 1978:373). The bows were commonly made from sinew-baked yew with a fore-shaft of mock orange or cluster rose, while the quivers were made from animal skin (Kroeber 1925:417). Knives and arrowheads were made with obsidian from the north and local flint (chert) and basalt-like stones (Dixon 1905:132). Nets and snares were made using a variety of plant materials such as milkweed and wild hemp.

Hunting was exclusively a male enterprise. In the mountains, deer, elk, and mountain-sheep were hunted, and in the Sacramento Valley, antelope and a variety of smaller animals were taken. According to Shipley (1991:11), the only animals not eaten by the Maidu people were grizzly bears, wolves, coyotes, and dogs.

Salmon were caught using large seine nets or salmon-gigs made from bone or antler. Spearing occurred in weirs across eastern tributaries of the Sacramento River. Salmon were dried on poles and once dry, pounded into a powder, stored and eaten dry (Dixon 1905:198). The first salmon of the year were always caught by the shaman and cooked over a fire at the same location where they were caught. The fish was then divided and given to those present with acorn bread.

The religion or spiritual beliefs of the Koncow were most fully represented in their mythology, shamanistic practices, and ceremonies. Myths are an effective means of transmitting information and knowledge orally between generations. Myths provide clues to Koncow beliefs about the environment and cosmogony, and many myths comment on places, events, and landscapes of importance that may still have relevance to the present. Researchers such as Roland Dixon (1905), Dorothy Hill (1969), and William Shipley (1991) recorded a number of Koncow myths. The epic story of creation remains one of the most important stories in the Koncow belief system. The story involves several characters, but the two most important are Earthmaker and Coyote. These two figures were vital in shaping the Koncow world, although the two had very different ideas about the world (Shipley 1991:ii).

The creation myth tells of the earths beginnings, but also defines death. It begins with Turtle floating on a raft in a world of only sky and water and then meeting Earthmaker or Wonomi. Turtle requested that there be land and Wonomi asked Turtle to dive to the bottom of the sea and fetch a ball of mud. Turtle returned six years later. From this mud, Wonomi created earth and all life. Wonomi offered acorns, happiness, and an easy life and then left for the world above. Coyote, a mythological troublemaker, arrived and saw how easy life was. Coyote said, “That is

no way to do. I can show you something better. We will have a mourning ceremony and burn property" (Riddell 1978:383). Coyote, through these acts, brought death to people.

Koncow death rituals included dressing the deceased in their finest clothing and placing them in a flexed position facing west with food and material possessions (Riddell 1978:382). Their possessions and other materials were displayed and then burned in a series of mourning rituals that continued annually for five years. Shamans were believed to hold mysterious powers and a spiritual connection that played an important role in medicine, festivals, Kuksu ceremonies, dances, and events between tribes (Riddell 1978:384). Shamans led the Kuksu ceremonies, which involved spirit impersonations and dancing. Other dances included the Waima or Duck dance, the Grizzly Bear dance, and the Hesi. Large ceremonial dances such as the Hesi, which signified a year's passing, were performed in dance houses and were followed by gambling and festivities (Riddell 1978:384). Instrumental music and song were also an important component of ceremonies, dances, games, and festivities.

The Koncow way of life was first impacted by Euro-American settlers in the early 1800s when Gabriel Moraga entered Koncow territory (1808). The goal of Moraga's 29-day expedition was to locate mission sites and make contact with Indians in the interior of California. In 1811, Padre Abella was exploring the Sacramento and San Joaquin Valleys and encountered members of the Koncow (Dixon 1905:129). Further visits into Koncow territory over the next 40 years included Jedediah Smith (1828), Hudson's Bay Company trappers (1828-1836), Peter Ogden (1830), Benjamin Bonneville (1832), Joseph Laframboise (1832), and John Sutter, who started his settlement at New Helvetia in 1839 (Dixon 1905:129; Riddell 1978:385).

In 1833, a malaria epidemic in the Sacramento Valley wiped out entire Koncow villages, drastically changing the Koncow society, and dramatically reducing the Koncow population until 1846 (Cook 1955). However, the most drastic impacts on the Koncow population and livelihood resulted from the discovery of gold in 1848, which resulted in a number of conflicts as the new settlers pursued mining and ranching operations within Koncow territory. Pressures on the Koncow drastically changed their traditional political and social organization and made traditional subsistence practices difficult or impossible.

As a result of increasing conflicts between the settlers and Native Americans, authorities worked to negotiate treaties to remove the Native Americans from certain lands and protect the Euro-American gold interests. During 1850-1851, in an attempt to deal with the 'Indian problem' in California, three federal treaty commissioners appointed by President Millard Fillmore entered into 18 treaties with some of the California Tribal leaders. The treaties involved agreements that set aside 8.5 million acres of land for reservations and provided educational and economic aid in return for government title to traditional Tribal territories. Koncow and Nisenan tribes signed treaties with Dr. Wozencraft at Camp Union on July 18, 1851 and at Bidwell's Ranch on August 1, 1851 (Heizer 1972:13).

In 1852 the U.S. Senate did not ratify these treaties because of objections from the California legislature and others who had concerns about giving away land that may have agricultural or gold-bearing potential.

Many of California's Native Americans remained homeless and unable to maintain a traditional, self-sufficient lifestyle. Conditions worsened and in 1855, some of the Koncow were moved to the Nome Lackie reservation in Tehama County. During the 1850s and 1860s, there were continued conflicts between the settlers and the tribes. In 1863, Native Americans from the Chico area were gathered together and escorted by infantry to Round Valley Reservation in Mendocino County. Of the 461 Indians that started the trek, only 277 reached the reservation. Over 150 Native Americans were too sick to complete the trip and were left at Mountain House to recover before continuing. Conditions on the reservations were poor and provided little opportunity for self-sufficiency. Those who left the reservations and tried to return to their homelands encountered new settlers.

Mining and agriculture had so drastically modified the landscape that traditional subsistence became difficult. Many Native Americans turned to jobs in ranching or logging or worked as servants.

Over the hundred or so years of contact, the population of the Koncow shifted dramatically. Cook (1943) estimated that the combined population of Koncow and Nisenan in 1846, prior to the discovery of gold, was 8,000. By 1850, the population had dropped to between an estimated 3,500-4,500 people. Fifteen years later, in 1865, the population had declined to 1,550 individuals, and by 1910, only 900 Koncow and Nisenan were left (Cook 1943; Riddell 1978:386).

During the early twentieth century, the rancheria system was developed to address growing concerns about landless Native Americans. The rancherias provided patches of isolated land for various tribes. Those Koncow who remained in the area joined rancherias at Mooretown, Enterprise, Berry Creek, Strawberry Valley, and Chico. However, many rancherias were "terminated" in 1953 by the USDOI Bureau of Indian Affairs (BIA) due to a change in national policy. It was not until the Tillie Hardwick *et al.* case in 1983 that 16 rancherias in California were "unterminated." However, rancherias for nine tribes remain terminated, including Strawberry Valley Rancheria, which is located on a tributary to the upper Yuba River in close proximity to the Project Area[4] (Thorp 2000:1). By 1960, there were an estimated 421 Native Americans in Butte County and 240 in Plumas County (Riddell 1978:386). During this time the socio-economic condition of the Native Americans was described as "low educational attainment, high unemployment, poor housing and sanitation, a high incidence of alcoholism, violent crimes, and suicide" (Wilson and Towne 1978:396).

Over the last 30 years, there have been significant changes within Native American communities. Rancherias have experienced a resurgence of population and economic development. There has also been a renewed interest in identity and preservation of traditional culture. Currently, Enterprise and Greenville rancherias operate an Indian health clinic, while Mooretown and Berry Creek rancherias operate casinos, which provide funding for Tribal benefits.

[4] For the purposes of this document, the Project Area is defined as the area within the FERC Project Boundary and the land immediately surrounding the FERC Project Boundary (*i.e.*, within about 0.25 mile of the FERC Project Boundary) and includes Project-affected reaches between facilities and downstream to the next major water controlling feature or structure, USACE's Daguerre Point Dam.

Although many Koncow descendants in the area are currently members of a rancheria, there are a significant number of Koncow/Maidu descendants whose ancestry is not recognized by the federal government. This creates tension throughout the Koncow community as groups and families are separated by their ability to prove their ancestry and achieve the benefits of recognition under federal statutes. As a result, the United Maidu Nation, Koncow Valley Band of Maidu, and the Strawberry Valley Band of Maidu have petitioned the government for federal recognition.

Despite the lack of federal recognition, unrecognized groups are very active in the preservation of their cultural resources and regularly provide input on development projects that have the potential to impact resources.

7.12.5 History of the Project Vicinity

The principal historical themes operating within the data gathering area and Project Vicinity include: early Euro-American colonization of California; migration and transportation; mining development; early settlement and development of agriculture, cattle ranching, sheep herding, and logging; the Forest Reserve system, formation of the TNF, and forest management practices; hydroelectric systems, water control and distribution; and the formation of the water districts. Each of these themes is discussed briefly below.

Prior to 1848 and the discovery of gold in California, the central Sierra Nevada remained largely unpopulated and unexplored by Euro-Americans. Beginning in 1769, the Spanish settled along the California coast and established their chain of 21 missions between San Diego and Sonoma; however, they rarely ventured into the interior except to pursue runaway Mission Indians or escaped livestock, or to scout for future missions sites.

Hudson's Bay Company trappers began taking beaver in the local rivers during the 1820s. After Mexico won its independence from Spain in 1822, the mission lands and other territories in California were divided into large privately owned ranches, and sheep and cattle ranching became the primary economic activities. In 1839, the first large landholdings in the region were granted to John Marsh near Mt. Diablo and John Sutter at the confluence of the American and Sacramento rivers (Jackson 1982; Pittman 1995).

Soon, American explorers and traders were probing the Sierran interior, discovering passes and routes across the mountains that are still used today. In 1841, Lieutenant Charles Wilkes led the first explorers into the region from the Pacific Northwest. A group of Wilkes' men journeyed down the Sacramento River to the San Francisco Bay. In 1844, the Stevens-Townsend Party ascended the Truckee River from the Nevada desert, came over Donner Pass, and camped at Cold Creek, south of Donner Lake. In 1845-1846, Charles Fremont, on his first of four ventures into the Sierra, followed the same path as the Stevens-Townsend Party. Subsequent forays into the region discovered additional routes that facilitated the movement of a steady stream of settlers into the area (Jackson 1982).

Conflicts between the Californios and the central government in Mexico City led to a series of uprisings culminating in the Bear Flag Revolt of June 1846. In November of 1846, Juan Bautista Alvarado named himself Provisional Governor and declared Alta California an independent state until Mexico restored the principles of federalism. However, Mexican control of California had effectively ended the year before, when the Californios expelled Manuel Micheltorena, the last Mexican governor.

As Jedediah Smith, John C. Fremont, and other American trappers and explorers brought news of California's favorable climate and bountiful natural resources eastward, the American government began to view California as part of its Manifest Destiny. Although the Mexican government decreed that Californios could not trade with foreigners, a thriving trade had developed between the California ranchos and New England; California sent tallow, hides, furs, and other local goods eastward in exchange for the manufactured wares of the east. The Mexican government, in a state of almost perpetual civil war, was powerless to stop the steady stream of immigrants from the east. Embroiled in the war for Texan independence, Mexico was in no position to defend California (Pittman 1995).

In the east, President Polk and the American newspapers saw this as an opportune time to take control of California. Polk's attempt to purchase the territory was unsuccessful; therefore, he was ultimately forced to declare war with Mexico. With the signing of the Treaty of Guadalupe Hidalgo on February 2, 1848, California formally became an American territory. Two years later, on September 9, 1850, California became the 31st state in the Union.

James Marshall's discovery of gold in January of 1848 at Sutter's Mill, near the Nisenan village of *Colluma* (present day Coloma southeast of the Project Area), triggered the California gold rush. By the end of that year, four-fifths of California's able-bodied men were mining in the gold fields (Robinson 1948). Until this period, the indigenous population of Hill Nisenan had lived a fairly peaceful existence with early settlers. The miners' greed, however, triggered widespread killing, destruction of villages, and the continued persecution of the Nisenan (Wilson and Towne 1978). In a period of 30-40 years, their population was nearly decimated. At the time of Beale's ethnographic research on the Hill and Valley Nisenan prior to 1929, he counted between 1,000-1,200 full-blooded Nisenan alive. Most of those were dispersed throughout their traditional territory, subsisting off work done for whites (Jackson 1982; Markley and Henton 1985). The Euro-American occupation pushed the Nisenan off their land and out of their traditional lifestyles, forcing them to serve as farm laborers, ranch hands, and household servants. Poverty and dislocation were extreme. The nearby Washoe to the east were similarly impacted by the discovery of gold and the influx of miners to the region. In 1858, the mining hordes stampeded back over the Sierra into the desert regions of Washoe territory, filling the desert mining camps of the Comstock Lode (Nadeau 1992).

Initially, placer gold could be extracted by individual miners or small groups using simple hand techniques. Within a few short years, however, the easily mined placer deposits had been depleted and more complex, mechanized methods came into use. Hydraulic techniques allowed the mining of lower grade placer deposits but required an elaborate water management and delivery system that could only be developed and maintained with a large capital investment beyond the means of most individual miners. Thus, water companies and corporate mining

ventures evolved, permitting large-scale hydraulic mining to continue until 1884, when the "Sawyer Decision" of the federal courts (named for U.S. Circuit Court Judge L. B. Sawyer) put an end to the environmentally destructive practice (Wagner 1970:37).

The gold rush was in full swing along the Yuba River and other rivers in the region by 1850 (Kyle 1990).The outlying areas also felt the impacts of the estimated 90,000 individuals who had made their way to the California mines by the end of 1849 (Holliday 1981). The streams flowing into the Sacramento River from the northern Sierra attracted hundreds of gold seekers. Additionally, many of the miners who failed to locate productive claims, or who chose to enter the trades supplying materials and provisions, were attracted to the area's many other resources. Agriculture, ranching, and logging industries soon developed. Dry farming methods were used to grow wheat, and cattle grazed the open range.

Toll roads, ferries, and other transportation systems developed simultaneously to facilitate the movement of people and products. Early trails and tracks used to access the gold mines in the mountains turned to maintained, permanent roads traveled regularly by stagecoaches, while steamships plied the navigable waterways. Towns were established along the network of roads and river systems on the west face of the Sierra Nevada and the adjacent valley floor. During the 1850s, John Butterfield developed an extensive system of overland routes providing mail and transportation services connecting the north, south, and western United States. In 1860-1861, the Pony Express was formed as a faster and more efficient delivery system (Pittman 1995). By 1869, the transcontinental railroad system had been completed.

By 1860, agriculture, ranching, and dairy farming had become predominant industries in the data gathering area. Ranchers who maintained large herds of cattle and sheep moved their livestock seasonally between the valley floor and the mountains. Severe drought during the 1860s led to the establishment of the first water districts and the development of irrigated agriculture, which permitted the introduction of new crops. The railroad soon facilitated the expansion of agriculture by increasing access to markets at greater distances.

Federal agency regulation and oversight of public lands in California soon developed, largely in response to unchecked grazing on public land, extensive clear cutting of forests, and other destructive land use practices. Additional pressure was brought to bear because of sheepmen burning grazing lands to maintain open pastures as they followed huge flocks of sheep down the mountains after the summer months of grazing at higher elevation. This practice was widely criticized by various parties, including timbermen and local residents, prior to the formation of the Forest Reserves under the Forest Reserve Act of 1891 (Jackson *et al.* 1982:125). The Forest Reserves system was developed to help manage grazing, logging, water use and other activities on public lands and ensure sustainable development for the future.

During the first decade of the twentieth century, the Forest Reserves were placed under the management of the federal Department of Agriculture. By 1906, the PNF and the TNF had been created. During the early years, rangers mapped the new forest territories and implemented land management plans and other forest programs. The concept of multiple use management was introduced under his stewardship. Power development, balanced handling of timber sales, and

mineral exploration were the key developments from 1906 to the 1940's and through to today (Jackson 1982).

A review of archival information on the data gathering area illustrates the general regional themes outlined above, in particular mining and hydroelectric development. By 1850, gold miners were intensively working the upper reaches of the Yuba River (Kyle 1990:540). Near the southern end of the Project Boundary, near the Narrows 2 Powerhouse, is the eastern extent of the Smartville (placer) Mining District, which extends west along the Yuba River to Timbuctoo (Clark 1980). Prospectors operated numerous other placer and hydraulic mining operations along the Yuba River, many of which are currently under the New Bullards Bar Reservoir.

Gudde (1974) provides overviews of three prominent gold mining operations in the data gathering area.

> *Condemned Bar (on the opposite bank of the Yuba River southwest of the New Colgate Powerhouse): At the confluence of Yuba River and Dobbins Creek. Mine is shown on Milleson and Adams' map of 1851, Trask's map of 1853, and Goddard's 1857. The mine was operated by Joseph A. Stuart who also ran a trading post there in 1851. County History of 1879 (page 94) indicates three white and three Chinese miners remained during the 1870s. Condemned Bar shown on USGS Smartville topo quad of 1943 (Gudde 1974:81).*
>
> *Bullards Bar: On the North Fork of Yuba River, about a mile below Fosters Bar. Recorded on Milleson and Adams' map, 1851. In June, 1849, a Dr. Bullard of Brooklyn, New York, and three partners dammed up the river…and pulled in 15 thousand dollars worth of gold in less than two months (Buffum, p. 105). In July of the same year, William Downey of Downieville opened a store here, and thus started on his remarkable career. By 1858 there were few residents left with the exception of some Chinese…In 1866, the post office was transferred from Fosters Bar and continued until 1914. There was, however, little mining after 1870. The place is now covered by Bullards Bar Reservoir (Gudde 1974:52).*
>
> *Fosters Bar: On the North Fork of Yuba River; now covered by Bullards Bar Reservoir. It was one of the earliest and best-known diggings on the Yuba and was named for William Foster, a survivor of the Donner Party. In April 1848, he formed a partnership with his brother-in-law, Michael C. Nye, who had been manager of Sutter's Hock Farm and major domo at Cordua's New Mecklenburg. Foster was one of the first miners on the lower Yuba in June, 1848, and a few months later he moved to the location known for him…Foster had a store there and a claim to a large part of the bar in November 1848…Foster managed the store when it was owned by Covillaud & Company, a partnership formed by Foster, Nye, and…Charles Covillaud…who later became one of the founders of Marysville. The post office was established March 5, 1852, but a post office is mentioned in a letter…as early as January 1, 1851. The place prospered for a decade, first by mining with cofferdams and after 1854 by the hydraulic process. In 1851 there were 300 inhabitants…In 1866 the post office was transferred to Bullards Bar (Gudde 1974:120).*

Other notable river bars with gold mining associations in the data gathering area include Wambos, Alabama, Sucker, Willow, New York, Missouri, Elbow, Rock Island, and Long. Miners worked these and other small placer operations primarily in the 1850s, but some continued into the 1870s (Gudde 1974).

7.12.6 History of YCWA and the Project

From the days of Jonas Spect, a prospector who hit pay dirt in the Yuba River the summer of 1848, the Yuba River produced the greatest lode of gold of any stream in the United States.

By the turn of the century, panning was no longer profitable, placer mining had displaced the prospector, and silt was clogging the channel from Smartville to Marysville. Even as the gold hunt flourished, enterprising men created farms on the fertile valley floor and were tapping the Yuba River for an even richer lode of irrigation water to flood their fields and streams.

As early as 1875, levees were rising to protect against the winter flow in farm country, and Marysville was beginning to surround itself with levees that now stand 35 feet above its urban streets. Old Bullards Bar Dam was built between 1922 and 1924 by the Yuba River Power Company and, downstream, the federal government created, just prior to World War II, USACE's Englebright Dam at the Narrows.

However, even the checking of the river mining debris and the erection of small dams did little to safeguard against flooding of the Yuba River in full flow.

There have been 10 major floods on the Yuba River during the Twentieth Century. In 1950, the Yuba River cut through its banks at Hammonton and inundated southern Yuba County, causing millions of dollars in damage. Then, in 1955, as every watershed in California was hit by tropical storms, the Yuba River became a ravaging torrent that choked its mountain channel, poured over the dams at Bullards Bar and USACE's Englebright Reservoir and ripped into the valley. The resulting flood came within inches of flooding Marysville, wreaked havoc in Yuba City, killed 40 people, forced almost 30,000 people to flee the county, and reinforced the contention that there was an urgent need for a major water program on the Yuba River.

Before the flood of 1955, the state had starting planning its California Water Project, now known as the State Water Project (SWP), which would build Oroville Dam on the Feather River. However, there was no project in state or federal planning that would control the Yuba River.

Since the wake of the 1950 flood that had raced through Linda and Olivehurst, south of the Yuba River, people had been at work in Yuba County on a water program that would control the Yuba River against disastrous floods and develop water resources for farmers who were pushing their wells ever deeper into dwindling underground reservoirs. The population of Yuba County, and Sutter County as well, had been growing steadily since World War II and the flood of 1950 had emphasized the danger to lives as more suburban home sites developed.

So, the Yuba County Board of Supervisors created in December 1951 the Yuba County Water Resources Board. The board had been able to do little more than evolve preliminary plans, locate water rights, and help the component water districts until after the 1955 flood.

The first problem that had to be resolved was the creation of an effective water agency that could take firm action.

In January 1959, Yuba County went to the State Legislature with a bill to create a water agency. The bill was signed by Governor Brown on June 1, 1959.

YCWA became a reality in 1959 and started a long, arduous, and stormy campaign that was not to reach a climax for almost 7 years.

YCWA employed International Engineering Company of San Francisco, one of the leading engineering firms in the world, to make a feasibility study and, in January 1961, they filed a report outlining The Yuba River Development Project that would cost approximately $185 million.

Key concepts of the project were: development of sufficient hydroelectric power to repay bond financing, without any tax obligation on the part of local landowners; and a long term contract for sale of power to Pacific Gas and Electric Company (PG&E) at a guaranteed annual payment, which would be the sole security for the bond issue. In addition, some help was sought for a federal contribution in recognition of project flood control accomplishments, and a state contribution in recognition of statewide benefits to recreation and fish enhancement.

Even so, the project posed a financial chore beyond all other obstacles that would have tried the resources of a state government, no less that of a county which was rich in history but short on financial assets.

In fact, at this point in its history, YCWA had exhausted its funds. It had committed to several years of tax revenues to a loan from the county general fund that was needed to pay engineering costs.

Few people in local, state, or federal water bureaus believed that Yuba, one of the state's smaller counties with an assessed valuation of only $65 million, could develop a project that carried a price tag of almost $200 million.

However, when the ballots were counted on May 16, 1961, Yuba County voters had approved, by an 11-1 margin, the $185 million in revenue bonds needed to fund the project. This was almost three times the total county assessment at that time. Still, YCWA faced some complex political maneuvers that had to be carried out despite its lack of political muscle at either the state or federal level.

The Federal Power Commission (FPC) required a construction license. This license required: an agreement with the Forest Service, which controls PNF and TNF of the Yuba watershed to ensure protection of the forest lands; a recreation plan acceptable to the Forest Service; a

negotiated agreement with CDFG that would provide fish protection and enhancement; and an agreement with the USDOI Bureau of Reclamation (BOR) and the state of California for future downstream development.

YCWA plowed forward with successful appeals for a federal cash contribution from Congress, in recognition of flood control benefits, and authorization from the State Legislature for carrying out recreation and fish enhancement through a grant under the Davis-Grunsky Act.
Meanwhile, YCWA faced the problem of finding financing for final design of the project and preparation of plans for construction bids. This was partly accomplished through a $400,000 loan from the Federal Community Facilities Administration with repayment obligated only if the project became a reality.

Finally, there were the complicated negotiations with PG&E for a 50 year contract for the sale of power that would finance the revenue bonds and to acquire the existing power generating plants that PG&E had long been operating at the Old Bullards Bar Dam and downstream at Colgate.

Final designs were prepared and by the summer of 1964, YCWA could look at the framework of its project.

A decision was made to call for bids to get construction under way before a lethargic bond market and a depression in the price of power put it out of business.

The bid opening in September of 1964 elicited considerable interest on the part of several contractors, but in the end, they declined to bid. "Too many contingencies and not enough money" was the consensus.

After an agonizing reappraisal by YCWA and its engineers, a revised plan was developed to produce more power, more efficiently by eliminating the proposed New Bullards Bar Power Plant and by replacing the old PG&E Colgate Power Plant and tunnel with larger facilities. To save additional money the irrigation diversion dam and canals, the New Narrows afterbay, and other project amenities were eliminated. Irrigation diversions and the canals would be left for a later stage of construction.

Bids were called for again, in December of 1965, and this time all the necessary contracts, licenses, and permits were accomplished facts. Costs had continued to climb sharply since the fall of 1964 and power values continued to fall, and shortly before the bid date, the bond market interest rates rose to more than one percent. YCWA received two sealed packages in response to its invitation for bids. One was not a bid, but a substitute proposal for a negotiated cost plus "target estimate" contract. The other was a bona fide bid; some $26 million higher than the estimated funds available, from a contracting combine called Perini-Yuba Associates.

Upon finding that the bidding contractor was willing to negotiate a contract, YCWA officials obtained the cooperation of the Governor in a special call to the Legislature and, as interest rates continued to climb, were granted legislative authority to execute a negotiated contract with the bidder for the largest single public woks contract ever awarded in California.

After intensive negotiation, involving concessions on the part of YCWA, as well as the contractor and PG&E, it was found that there was still an un-closeable gap between costs and revenues amounting to $8.7 million. Interest rates continued to climb, with each one-eighth percent representing almost $4 million less cash available for construction, all the while power values were declining. The impasse was solved by a novel and unprecedented arrangement, under which the contractor, the engineer, and PG&E agreed jointly to purchase sufficient Series B subordinate lien revenue bonds to close the actual fund gap at completion of construction. These bonds mature after retirement of Series A Bonds in 50 years.

The Series A Bonds were sold to a single bidder May 24, 1966 - Blythe and Co. and Smith-Barney Inc. of San Francisco. It appears in retrospect that there were only a very few days when market conditions were such that this issue could have been absorbed. On June 1, 1966, the money and bonds were delivered, and a unique construction project was underway.

The construction was undertaken by Perini-Yuba Associates. They would hire up to 3,000 workers, hailing from every state in the United States. A score of local firms including H. Earl Parker, Baldwin Contracting Co., and Tenco made major contributions to the development.

The task before them was monumental and the time line was set by the contract, which stated, “the project must be completed and operational 4 years and 1 month from the starting date.”

The challenges lay in the geography of the land where the construction was to take place - steep, rocky canyons accessible only by narrow roads located miles from any large city - and weather in the form of torrential rains that could wipe out months of excavation work in a few hours. Both could cause delays, which no on could afford.

YCWA and the contractor knew that lives, homes, and businesses would be lost if the project was not completed before the Yuba River rose up again.

A half mile of vapor lights strung across the canyon allowed shifts of men to work 24 hours a day for more than 2 years. Day in and out concrete was continuously placed 20 hours a day.

In January 1969, a storm hit that produced a historic runoff on the river. Engineers had foreseen such and event and had required the center block of the dam be left lower to handle the Yuba River. The waterfall that spilled over that center block was spectacular; even in its unfinished state the new dam had kept the Yuba River from turning deadly and destructive.

By the end of 1969 the project was moving toward completion. New Bullards Bar Dam was completed and water was being stored in the new reservoir.

In early 1970, the New Colgate Powerhouse, which contained two of the largest turbines of their kind ever built, was ready for trial tests to produce electricity. The 1,300 foot drop of water from behind New Bullards Bar Dam boosted the force of the water at each turbine to the equivalent of 212,000 horsepower. However, within a month it was shut down when a crack was discovered in the 47 ton stainless steel runner on the number two unit. Men worked 24 hours a day at Colgate to grind out the crack in the runner, while experts from Switzerland and Germany

hurried across the Atlantic to figure out a solution to the problem. The repair was made within 3 weeks, and the runner was back in service as good as new.

The New Narrows Powerhouse, which began producing electricity in February 1970, had problems too. A 10-inch long strap of steel broke loose, tore up the stator and pole windings, and set fire to the generator. The generator was taken back to Japan by ship. There it was rebuilt, reshipped and returned to the project for installation and was generating power by May 10, 1970.

7.12.7 List of Attachments

None.

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